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ARTICLE II.

REVISION OF THE CICINDELÆ OF THE UNITED STATES.

BY JOHN L. LE CONTE, M. D.

(Read, February 1st, 1856.)

The genus *Cicindela*, a favourite with all entomologists, contains a very large number of species which are mostly distinguished by brilliant colours, and conspicuous markings. Although easily recognised by direct comparison, the structure of these numerous species is varied upon such uniform types, that much difficulty is found in identifying an unknown one by description, and the descriptions given by authors are frequently either obscure from their brevity, or tedious from their length. This necessarily results from the want of success in dividing the genus into small groups defined by easily recognised characters; and it is much to be regretted that some of the entomologists of Europe, with large collections at hand, have not made an effort to produce a monograph of this beautiful genus.

The species found in the United States have been increased since the publication of Say's monograph, in the first volume of this work, from 13 to 65; the descriptions of these have become so scattered as to be rather troublesome to the student, and as I have fortunately obtained specimens of all those previously described, excepting three made known by Say after the publication of the monograph mentioned, it appeared to me to be a work not altogether without profit to science, to attempt to bring together such notes upon these species as would enable subsequent investigations to be carried on with less labour than has been previously required.

Before proceeding to the description of the species, I have attempted to group them in such manner as to divide the characters common to several, from those which are peculiar and diagnostic, and I have presented the result in a synoptic table. In making

these comparisons I have availed myself of the copious collection of foreign species belonging to the Academy of Natural Sciences, and but recently presented to that institution by Mr. John A. Guex. As many groups of foreign species are not represented in our fauna, I have indicated such as could be conveniently placed in the table following; these are marked by brackets, and I have also occasionally added the name of a foreign species, also within brackets, where the American representatives of the group were not likely to be extensively known. The table thus has assumed the form of a general, but very imperfect, arrangement of the contents of the genus.

While examining the foreign species, my attention was directed to the impossibility of reconciling the system of marking of the East Indian *C. 4-lineata* Fabr. with that seen in any of the groups of genuine Cicindelæ; but on closer inspection I found that accompanying the two yellow stripes on each elytron, was a remarkable character that seems to have escaped previous observers. It is the presence of a longitudinal dorsal suture each side of the thorax: the pronotum, or tergum, is in fact narrowed, while the mass of the prothorax is subjected to no diminution; the lateral sutures separating the pronotum from the lateral pieces of the prothorax, which in all other species are seen on the under surface, in this instance become dorsal. This peculiarity seems to necessitate the formation of a new genus, for which the name *Hypætha* may be adopted.

The system of colouration is called normal in the following pages when the under surface and legs are of a more or less metallic colour; the abnormal variations are few, and consist in the abdomen being red, or the legs in part or in whole pale or red, without metallic lustre.

The spots of the elytra are normal, when they are of the following type, more or less reduced by deficiency; a humeral narrow curved spot, called lunule; a middle band more or less bent, and descending internally; and an apical curved line usually bent inwards at its anterior part: these spots are sometimes confluent on the margin, and sometimes separate: they are sometimes entire, and sometimes interrupted, and occasionally reduced to merely marginal spots.

Abnormal variations occur; 1, by additional spots at the base or near the suture (groups XI., XII., XIII.); 2, by the deficiency of the terminal part of the apical lunule, while its anterior part is well marked, (groups II., III., XVII.); 3, by the inner portion of the middle band being lost, while the external marks become confluent, forming a broad white margin, only slightly lobed internally (groups XX., XXI., XXII.); 4, by the marks being removed more or less from the margin of the elytron (group X.; and still more in XXIII.)

The form is called normal when the humeral angles are distinct, and the elytra moderately convex and oval, when the head and eyes are moderately large, but not excessive, and when the thorax is quadrate, trapezoidal, or subcylindrical, with well-marked impres-

sions. Abnormal variations occur by the elytra becoming narrowed anteriorly, without humeral angles, (group XXIV.); by the thorax being narrow and cylindrical, with only faint impressions (group XXIV.); by the eyes being excessively large, (groups XI., XII., XIII., XIX., XXI., XXII., XXIV.); and by the elytra being subcylindrical, instead of moderately convex and oval, (groups XII., XXI., XXII., XXIII.)

A. Abnormal cylindrical Cicindelæ, with sericeous surface, and with the labrum variegated or black, frequently 5-toothed, with prominent exterior angles; the elytra are marked with narrow vittæ, and small sutural dots, or else with normal spots, the apical portion of the apical lunule being always wanting. The head is large, with moderate, but occasionally prominent eyes. The palpi are pale with dark tips. The legs and abdomen are always of the colour of the body, which is not very pubescent. The tarsi are glabrous above, and the anterior of the male are moderately dilated. (All foreign.)

a. Elytra with vittiform markings, and subsutural dots. *C. lugubris*, *fatidica*, &c.

b. Elytra with marginal spots, and frequently with slightly bent medial band. *C. chinensis*, &c.

B. Normal, frequently flattened, Cicindelæ, with the labrum frequently large; sub-5-dentate in some species, (of the first group,) with the outer angles not prominent; usually white, rarely black, usually tridentate, but sometimes only unidentate. Front broad, eyes moderate, sometimes prominent. Elytra usually sericeous, rarely polished, sometimes punctured; apical spot usually wanting; tips never serrate; sutural spine completely wanting. Thorax flattened, almost margined, narrowed behind. Under surface normal in colour; legs never very long. Tarsi of male more broadly dilated than usual.

I. Surface sericeous, elytra only punctured towards the base, (spots usually wanting.) Sp. 1-3. *C. prasina*, *obsoleta*, *vulturina*.

II. Front flat, labrum tridentate. Elytra foveate and punctured. Sp. 4. *C. unipunctata*.

III. Front excavated, labrum unidentate. Elytra foveate and punctured. Sp. 5. *C. longilabris*.

IV. Labrum very short, tridentate; elytra with shallow punctures and subsutural foveæ; thorax hardly rugous. Sp. 6-10. *C. pulchra*, *Lecontei*, *rugifrons*, *scutellaris*, *nigrocærulea*.

(Here comes in a group of elongate species of normal form, but with very large head, small eyes, and long, trapezoidal, somewhat flattened thorax: *e.g.*, *C. luctuosa Dej.*)

C. Normal, usually convex Cicindelæ, with the labrum white, tridentate or unidentate, with the outer angles not prominent, and only moderate in size. Front broad, eyes prominent, but moderate in size. Elytra punctured, sometimes granulate, rarely polished; sutural spine distinct; tips alike in both sexes, usually serrate, but sometimes smooth; elytra with normal markings, the apical portion of the posterior lunule never wanting, unless the whole lunule is wanting. Under surface and legs normal in colour, the latter never very long. Tarsi of males rather broadly dilated. Thorax trapezoidal or quadrate, never cylindrical; posterior angles usually a little elevated.

V. Thorax convex, rugous; front glabrous; elytra finely serrulate, punctured. Body only slightly hairy beneath. Palpi of both sexes black.

a. Labrum tridentate. Sp. 11, 12. *C. sexguttata*, *patruela*.

{β. Labrum unidentate. *C. tricolor*.}

VI. Thorax short, flat, trapezoidal, rugous; front hairy; elytra with elevated punctures, not serrate; humeral lunule interrupted; palpi of both sexes black.

{γ. Elytra equably punctured. *C. campestris*, *desertorum*, &c.}

δ. Elytra less punctured towards the margin. Sp. 13, 14. *C. splendida*, *purpurea*.

Thorax rugous and granulate, usually convex; elytra punctured obsoletely serrate; humeral lunule prolonged.

{Front glabrous. *C. distans*, *Zwickii*.}

VII. Front, thorax and body very hairy. Sp. 15-21. *C. Ancocisconensis*, *venusta*, *generosa*, *formosa*, *latesignata*, *vulgaris*, *fulgida*.

VIII. Thorax rugous and granulate, usually short or quadrate, flattened; elytra punctured, with elevated granules intermixed, distinctly serrate. Sp. 22-26. *C. oregona*, *guttifera*, *12-guttata*, *baltimorensis*, *hirticollis*.

IX. Thorax sub-cylindrical, hardly granulate, finely rugous; elytra punctured, serrate. Sp. 27. *C. tenuisignata*, {*dignoscenda*.}

X. Head and thorax finely granulate, the former with curved striæ on the vertex; elytra punctured, not serrate, marks remote from the margin. Sp. 28-31. *C. imperfecta*, *pusilla*, *circumcincta*, *cyanella*.

D. An entirely anomalous group, with large prominent eyes; the thorax is quadrate or sub-cylindrical, (wider posteriorly in some females;) the posterior impression is deeper externally, but does not reach the sides of the thorax; posterior angles elevated, sometimes prolonged; elytra sometimes white, usually with white basal spots, (except in *C. sperata*;) legs very long, with the claws larger than usual; body beneath normal in colour; trochanters in many of the native species red.

{*a*. Front slightly pubescent; thorax with posterior angles prolonged. *C. capensis*.}

XI. *β*. Front glabrous, elytra white, trochanters purple.

{Right mandible of male not toothed inferiorly. *C. nivea*.}

Right mandible of male with an inferior tooth near the tip. Sp. 32-34. *C. dorsalis*, *media*, *Sauleyi*.

XII. *γ*. Front pubescent, (body cylindrical,) trochanters red.

Right mandible of male with inferior tooth. Sp. 35, 36. *C. lacerata* and *marginata*.

Right mandible of male not toothed inferiorly. Sp. 37-40. *C. cuprascens*, *blanda*, *macra*, *sperata*.

{*δ*. Front with a few hairs behind the eyes, trochanters purple. *C. Candei*, &c.}

XIII. E. A broad, flattened species, having the elytra white, even to the suture; head densely pubescent; eyes very large; thorax cylindrical; legs pale. Sp. 41. *C. lepida*.

F. Species of regular form and normal colouring, with the head and thorax finely granulate, the elytra punctured, with a subsutural row of foveæ, finely serrate; thorax sub-cylindrical, narrowed behind; labrum unidentate.

XIV. Middle band tortuous. Sp. 42-45. *C. ascendens*, *serpens*, *sigmoidea*, *tortuosa*.

XV. Middle band interrupted, (rectangularly bent.) Sp. 46. *C. punctulata*.

XVI. Spots wanting; head and thorax hardly granulate. Sp. 47. *C. corvina*.

G. Species of regular form, with sericeous surface; thorax quadrate or sub-cylindrical, not rugous or granulate; eyes moderate or large, but never excessive in size; elytra serrate.

XVII. Apical part of terminal lunule wanting. Sp. 48. *C. decostigma*.

XVIII. Terminal lunule complete, abdomen red. Sp. 49-53. *C. hemorrhagica*, *Hentzii*, *16-punctata*, *rufiventris*, *eumatilis*.

XIX. II. A small black species with red abdomen, and edentate rounded labrum; eyes very large. Sp. 54. *C. abdominalis*.

XX. I. An elongate species of obscure colour, with moderate eyes; thorax cylindrical; elytra not serrate margined with white; abdomen with the sides and tip red. Sp. 55. *C. marginipennis*.

K. Cylindrical species with the eyes very large; the elytra punctured and finely serrate; legs and abdomen normal in colour; anus usually pale.

XXI. Abdomen glabrous in the middle.

α. Head strongly striate, glabrous; elytral spots marginal. Sp. 56. *C. severa*.

β. Head finely striate, glabrous; elytra with white margin. Sp. 57, 58. *C. circumpecta*,
prætextata, { *Ruppellii*, *boops*, and *biramosa*. }

γ. Head pubescent; elytra with very broad white margin. Sp. 59. *C. togata*.

XXII. Abdomen entirely pubescent. Sp. 60. *C. gratiosa*.

XXIII. L. A cylindrical species with red legs and strongly punctured elytra, marked with a discoidal vitta.
Sp. 61. *C. lemniscata*.

M. Small species having the eyes very large, the thorax cylindrical and elongate, and the elytra narrowed in front, without humeral angles; wings imperfect.

{ *α.* Elytra glabrous. *C. dromicoides*. }

XXIV. *β.* Elytra sparsely pubescent. Sp. 62, 63. *C. celeripes*, *cursitans*.

GROUP I.

This group contains species of an elongate not convex form, and dull sericeous black or green colour. The labrum is moderately large, with five anterior teeth, in the males the exterior one of these teeth each side is reduced to a slight sinuosity so that the labrum appears tridentate; the lateral angles are rounded. The palpi of the female are usually entirely black; the labial palpi of the male are pale, with the last joint black. The front is rather flat, glabrous, with only a few very fine striæ each side. The thorax is trapezoidal, not very convex, with the transverse impressions well defined. The elytra are slightly convex, indistinctly punctured except at the base, where the punctures are large and scattered: the apex is not serrate, broadly and conjointly rounded in both sexes, sutural spine very small: the usual white spots are very small or entirely wanting; the pattern, when most complete, is a humeral spot, an obtusely bent medial band, and an apical lunule. The legs, under part of the thorax, pleuræ, and sides of the abdomen are clothed not densely with white hair; a few hairs are also seen above on each side of the thorax. The three joints of the anterior tarsi of the male are equal in width, and moderately dilated.

1. *C. prasina*, obscure nigro-prasina, sericea, thorace trapezoideo, latitudine sesqui brevior, planiusculo, lateribus parum rotundatis parce pilosis, angulis posticis rotundatis prominulis, subtus nigro-viridis, thoracis pleuris abdominisque lateribus modice albo-pilosis; labro albo, breviusculo, antice haud rotundato, breviter tridentato. Long. .77.

C. obsoleta ‡ var. *Lec. Ann. Lyc. Nat. Hist.* 4, 178.

One male found by me on the Arkansas River below Bent's Fort. Closely allied to the next, and not differing in sculpture; the form of the thorax is however so different, that it cannot be considered as a variety: the posterior angles are in the same manner rounded, and separated from the base by a slight margin, which causes them to appear prominent: the labrum is shorter, and the elytra wider than in *C. obsoleta*.

2. *C. obsoleta*, nigra, sericea, thorace subquadrato, latitudine vix brevior, planiusculo, lateribus fere rectis parce pilosis, angulis posticis rotundatis prominulis, subtus nigra, lateribus albo-pilosis; elytris puncto albo marginali sæpius obsoleto ad medium notatis; labro albo, antice subrotundato, 5-dentato, (dentibus externis maris fere obsoletis.) Long. .68—.80.

Say, Journ. Acad. Nat. Sc. 3143. Lec. Ann. Lyc. Nat. Hist. 4, 178, tab. 13, fig. 4.

Abundant on the arid table lands east of the Rocky Mountains, about the upper parts of the Platte and Arkansas Rivers. Flight active and vigorous.

3. *C. vulturina*, nigra, sericea, thorace trapezoideo, latitudine vix brevior, paulo convexo, lateribus modice rotundatis parce pilosis, angulis posticis haud prominulis; elytris gutta humerali, fascia angusta obtuse angulata ad medium lunulaque apicali albis, sæpe obsoletis; subtus cyanea lateribus albo-pilosis; labro antice infuscato rotundato, (feminæ) sub-5-dentato. Long. .61—.67.

Lec. Proc. Acad. Nat. Sc. 6, 439.

Eagle Pass, Rio Grande, Texas: collected by Mr. Schott of the Boundary Commission. Nearly related to the preceding, but the thorax is more convex, and more rounded on the sides, and the posterior angles fall into the base instead of being prominent. The middle band of the elytra is about as sinuous as in the well known *C. limbata*, (a race of *C. splendida*) but is narrower and frequently obsolete.

GROUP II.

The group contains one species of a somewhat flattened form, and dull brownish colour, above almost without metallic reflections. The labrum is large, prominent in the middle, with three distinct teeth; the outer angles are very obtuse. The palpi of both sexes are entirely black. The front is flattened, finely wrinkled, and striate towards the eyes, entirely bald; the surface of the head and thorax is distinctly granulate. Thorax flattened, trapezoidal. Elytra not serrate at tips, which are separately acutely rounded, without any sutural spine: the punctures are large and shallow, the markings marginal, frequently wanting. Body beneath glabrous. Eyes rather small, but prominent.

4. *C. unipunctata*, æneo-fusca, opaca, sericea, labro albo tridentato, fronte tota striolata, thorace trapezoideo planiusculo, latitudine haud brevior, confertim rugoso ad latera vix rotundata parce albo-piloso; elytris pone humeros latioribus, distinctius marginatis planiusculis, æqualiter punctatis foveisque sparsis præcipue versus suturam notatis, punctis omnibus cyaneis, apice singulatim rotundatis, macula marginali intus obsolete prolongata ad medium alba; subtus nigro-purpurea glabra. Long. .58—.68.

Fabr. Ent. Syst. 1, 174; Syst. El. 1, 238. Oliv. 33, No. 22; tab. 3, 27. Herbst, Käfer, 10, 190; tab. 173, 1: Say, Trans. Am. Phil. Soc. 1, 412; tab. 13, fig. 3.

Pennsylvania, Missouri, Georgia; found in paths in shady, hilly woods in May or June, according to the latitude of the locality: the merit of discovering a locality in the immediate neighbourhood of Philadelphia is due to Mr. Schafhirt. Varieties are mentioned by Mr. Say in which there is a supplemental spot half way between the medial one and

the apex; such have not occurred to me; immaculate varieties are mentioned, but they are only greasy specimens, in which vestiges of the spot can always be traced.

GROUP III.

Species having the upper surface sericeous, the body rather flattened, and the thorax trapezoidal, usually short, and almost margined. The head is glabrous, the vertex is broadly excavated, the front is suddenly declivous anteriorly, and finely striate. The labrum is large, prominent, sometimes black (in foreign species,) and one-toothed. The markings of the elytra are variable, but the terminal part of the apical lunule is always wanting, the apex is not serrate and but slightly separately rounded. The palpi are black in both sexes: the second and third joints of the anterior tarsi of the male are slightly oblique. The body is hairy beneath on the sides; in other respects this group agrees with the preceding.

The species, which with one exception are foreign, may be divided as follows:

Labrum black, carinated, elytra punctured and foveate. *C. fasciatô-punctata*, &c.

Labrum white, subcarinate.

Black, elytra more densely punctured, hardly margined. *C. longilabris*.

Green, elytra flattened, margined. *C. ismenia*, *rotundicollis*.

5. *C. longilabris*, purpureo-nigra, supra æneo tincta, labro albo magno, antice rotundato, obtuse dentato, lateribus sinuato, thorace latitudine fere duplo brevior, trapezoideo, confertim rugoso, impressionibus profundis, elytris confertim minus profunde punctatis versus suturam vage seriatim foveatis, gutta humerali, altera ad quadrantem, fascia media sinuata obtuse deflexa, guttaque ad dodrantem albis; subtus cyanea, lateribus parce albo-pilosis. Long. 55—64.

Variat elytrorum maculis plus minusve deficientibus.

a. Supra, nigra immaculata, (thorace postice minus angustato.)

Say, Long's Expedition to St. Peter's River, 2, 268. Lec. Ann. Lyc. Nat. Hist. 4, 178.

C. albilabris Kirby, Fauna Bor. Am. 4, 12; tab. 1, fig. 1.

New Hampshire, Canada, Mackinaw, Lake Superior; inhabits paths through grassy and bushy places, and takes refuge in the herbage when disturbed. The form (a) is a female from the North shore of Lake Superior, of a pure black colour above, and broader form than usual; the thorax is less narrowed posteriorly.

GROUP IV.

Robust species with convex elytra and thorax, the latter (not much wider than its length, rounded on the sides, hardly rugose, not granulate; front deeply striate sparsely setose, or sparsely finely striate and glabrous. Labrum short, 3-toothed. Palpi of both sexes entirely black. Elytra indistinctly punctured, with a row of small shallow foveæ near the suture, conjointly broadly rounded at tip, not serrate, spots always marginal, usually small and disconnected, (except in some varieties of *C. Lecontei*,) and frequently

wanting. Pectus and legs sparsely clothed with white erect hairs: outer side of middle tibiæ densely pubescent. Tarsi of male moderately broad.

Species of sandy and bushy places, of active and vigorous flight, appearing only when the sun is shining.

C. pulchra seems related to *C. severa*, but that species is elongate and has the base of the palpi pale: the tips of the elytra are in it finely serrate and somewhat obliquely narrowed, the body is much more hairy beneath; and finally the middle tooth of the mandibles is smaller than the others, while in *C. pulchra* as in the others of this group they are nearly equal in size.

The species, which so far as known to me are North American, may be divided as follows.

Front hairy, elytra polished, margin of a different colour. Sp. 6.

Front hairy, elytra not polished. Sp. 7-9.

Front glabrous, finely striate each side; elytra not polished. Sp. 10.

6. *C. pulchra*, capite purpureo cupreoque variegato, fronte punctata pilosa utrinque parce striata, thorace convexo cupreo lævigato, marginibus omnibus cyaneis, elytris cupreis politis antice punctatis, sutura margineque cyaneis, gutta humerali, alteraque submarginali ad medium albis, sæpe deficientibus; subtus cyanea, vel viridis, lateribus longe albo-pilosis. Long. .73.

Say, Journ. Acad. Nat. Sc. 3, 142: Dej. Sp. Gen. 2, 421: Lec. Ann. Lyc. Nat. Hist. 4, 175: tab. 13, fig. 1.

Found on the arid table lands adjacent to the Rocky Mountains from the Platte River to the Rio Grande. A species of strong and vigorous flight, not common and very difficult to capture.

7. *C. Lecontei*, supra cupreo-purpurea, haud nitida, fronte fortiter striata parce punctata et pilosa, thorace convexo, vage at distincte rugoso, elytris brevibus convexis obsolete punctatis versus suturam seriatim vage foveatis, maculis marginalibus sæpe coherantibus albis, subtus obscure cyanea ad latera pilosa; labro sexus utriusque albo tridentato. Long. .5.

Haldeman, Proceedings of the Academy of Nat. Sc. of Philad. 6, 361.

Wisconsin, near Green Bay, Mr. Guex: near Racine, Messrs. Hoy and Barry; Fort Gratiot, Dr. Kirtland. Very closely allied to the next, and not differing in form, in any respect: the labrum is however white in both sexes, and the thorax is sparsely but distinctly rugous. The humeral lunule is frequently entire, the medial spot is triangular and large, very often connected with the humeral and apical lunules: the latter recedes anteriorly from the margin, and is prolonged forwards. Sometimes the humeral lunule is reduced to a post humeral marginal dot. Varieties will doubtless occur in which the spots are small, or even entirely wanting.

8. *C. rugifrons*, cyaneo-viridis vel nigra, fronte fortiter striata parce punctata et pilosa, thorace convexo, haud vel vix rugoso, elytris brevibus convexis obsolete punctatis, versus suturam seriatim obsolete foveatis, gutta post-humerali, macula triangulari media, lunulaque apicali sæpe coherantibus, sæpe autem deficientibus albis; subtus ad latera pilosa; labro tridentato maris albo, femina nigro-piceo. Long. .43—.5.

Dej. Sp. Gen. 1, 51; 5, 209: Gould, Bost. Journ. Nat. Hist. 1, 46.

C. denticulata Hentz, Trans. Am. Phil. Soc. 3, 254, tab. 2, fig. 1: Harris, New Engl. Farmer, 7, 90.

C. obscura || Say, Trans. Am. Phil. Soc. 1, 418, (nec Fabr.) (gens nigra.)

C. modesta Dej. Sp. Gen. 1, 52: Lec. Ann. Lyc. Nat. Hist. 4, 175, (gens nigra.)

α . Elytris brevioribus et paulo convexioribus, præcipue immaculatis, vel lunula apicali obsoleta notatis.

C. unicolor Dej. Sp. Gen. 1, 52: 5, 210.

Found in sandy places, in various parts of the Eastern, Middle and Southern States. The black race does not occur at the same localities with the green one, but on close comparison, nothing of specific character can be found to separate them. The form α is found in Georgia, Alabama and Florida, and is usually of a more obscure green than the type.

9. *C. scutellaris*, viridi-cyanea, capite thoraceque haud nitidis, fronte fortiter striata, parce punctata et pilosa, thorace convexo, confertim subtiliter rugoso, elytris flavescens-cupreis versus scutellum virescentibus, haud nitidis, brevibus convexis obsolete punctatis, versus suturam obsolete foveatis, puncto marginali ad medium lunulaque apicali sæpissime deficientibus albis: subtus ad latera pilosa; labro tridentato, maris albo, feminae piceo. Long. .45.

Say, Journ. Acad. Nat. Sc. 3, 140: Lec. Ann. Lyc. Nat. Hist. 4, 176; tab. 13, fig. 2.

Valley of Platte River, on sand hills in June; not abundant. The colour of the head and thorax varies from full green to blue: the sides of the latter are less rounded in the male than in the female. The colour of the elytra also varies from coppery to brassy.

10. *C. nigrocærulea*, nigro-purpurascens, sericeo-micans, fronte glabra subtiliter rugosa, utrinque striata, thorace modice convexo, latitudine brevior, parce rugoso ad latera pilis parvis depressis albis, elytris minus convexis obsolete punctatis, versus suturam seriatim foveis cyaneis impressis, lunula apicali obsoleta alba; subtus ad latera parce haud erecte albo-pilosa; labro sexus utriusque albo, maris obsolete, feminae distincte tridentato; palpis labialibus maris basi pallidis. Long. .5—57.

Leconte, Annals of the Lyc. of Nat. Hist. of New York, 4, 181, tab. 14, fig. 9.

One pair found near Bent's Fort on the Arkansas River. The elytra of this species are more elongated than in the others of this group, and the sexual characters are different; yet by the indistinct punctures of the elytra, as well as by the absence of serrature and sutural spine, it seems to be here properly appended. It is a stouter species than *C. punctulata*, which it at first sight seems to resemble.

GROUP V.

Labrum moderate, advanced in the middle, strongly tridentate. Head and thorax glabrous, finely rugose, the former finely striate between the eyes, the latter convex and strongly impressed. Palpi entirely black. Elytra strongly punctured, broadly rounded, and but very obsoletely serrate at tip, sutural spine distinct: spots small, the anterior ones in one species hardly ever visible. Body beneath very sparsely pilose.

Differs from the next group by the bald front, and slightly serrate tips of the elytra.

11. *C. guttata*, viridis, vel cyanea haud nitida, fronte striata glabra, postice rugosa, thorace latitudine brevior, convexo postice angustato, minus subtiliter rugoso, elytris valde punctatis, gutta ad medium (sæpe intus paulo oblique prolongata) lunulaque apicali interrupta albis, maculis his sæpe deficientibus; subtus vix parce albo-pilosa; labro sexus utriusque albo, medio paulo porrecto, fortiter tridentato. Long. 4—53.

Fabr. Ent. Syst. 1, 176; Syst. El. 1, 241: Oliv. 33, No. 27; tab. 2, 21: Herbst, Archiv. tab. 27, 17; Käfer, 10, 171, tab. 171, 6: Say, Trans. Am. Phil. Soc. 1, 414; table 13, fig. 4: Dej. Sp. Gen. 1, 53: Gould, Boston Journ. Nat. Hist. 1, 45.

VAR. *C. violacea* Fabr. Syst. El. 1, 232: Herbst, 10, 198.

Newfoundland, Pennsylvania, Louisiana, Wisconsin, and Nebraska. Lives usually in roads running through shady places, and is easily captured. Exhales a fragrant odour. Nearly related to the Siberian *C. coerulea*.

12. *C. patricula*, viridis, olivaceo-brunnea, vel cyaneo-nigra, haud nitida, fronte subtilius striata glabra, capite postice rugoso, thorace latitudine brevior convexo, postice angustato, dense rugoso, elytris punctatis, subgranulatis, lunula humerali apicalique interruptis, fascia media obliqua vix sinuata albis; subtus lateribus parce albo-pilosis; labro sexus utriusque albo, medio paulo porrecto, tridentato. Long. 5—58.

Dej. Sp. Gen. 1, 62: Gould, Bost. Journ. Nat. Hist. 1, 44; tab. 3, fig. 4: Lec. Ann. Lyc. Nat. Hist. 4, 178.

C. consentanea Dej. Sp. Gen. 1, 63. (var. obscurior.)

Middle States, in shady paths on hills. The middle band consists of a large lateral triangular spot connected with a small discoidal one, by a slightly oblique narrow line.

GROUP VI.

This group contains closely allied, and in fact undistinguishable species, having the labrum moderate, slightly advanced and 3-dentate in the middle: palpi black in both sexes: eyes moderate, not prominent: head and thorax granulate and rugose, the front striate and pilose with erect hair; the latter not very convex, obliquely narrowed behind, with the impressions very deep. Elytra moderately punctured, punctures almost always elevated, broadly rounded and not serrate at the tips; spots always disconnected, anterior ones frequently wanting; under surface with long white hair, which is sparse on the abdomen, but more dense on the breast. Legs not elongated, hairy; tarsi of the male with moderately dilated joints.

The foreign species of this group (*C. campestris* &c.) have the elytra equably punctured, while in ours the punctures near the lateral margin are less distinct.

13. *C. splendida*, supra varicolor, thorace marginibus viridibus, capite discoque sæpius cupreis valde rugosis, elytris elevato-punctatis sutura sæpissime viridi, puncto humerali, altera posthumerali sæpe deficiente, fascia sinuata perpendiculariter oriente, gutta anteapicali, lunulaque terminali albis, margine late viridi vel cyaneo, minus distincte punctato. Long. 4—56.

a. Brevior, supra purpurea, thorace lateribus magis rotundatis, elytris antrorsum paulo angustatis, convexioribus, fascia media completa, guttis marginalibus sæpe obsoletis; subtus cyanea.

C. limbalis var. Lec. Ann. Lyc. Nat. Hist. 4, 177.

β . Longior, præcipue cuprea, thorace lateribus parum rotundatis, elytris planioribus antrorsum haud angustatis maculis completis.

- a. Nigra. *C. spreta* Lec. Ann. Lyc. 4, 177; tab. 13, fig. 7.
- b. Cuprea. (♂ ♀) *C. limbalis* Klug. Jahrb. Ent. 1, 29. *C. marginalis* var. Dej. Sp. Gen. 5, 210.
- c. Cuprea, fascia media introrsum attenuata, puncto humerali deficiente. (♀)
- d. Cuprea, fascia media extrorsum subobliqua. (♀)
- e. Læte cuprea, fascia media minus subito sinuata. (♀) *C. amœna* Lec. Ann. Lyc. 4, 177; tab. 13, f. 3.
- f. Capite thoraceque totis viridibus. (♂)
- g. Cuprea, elytris fascia media intus abbreviata, guttis marginalibus minutis.

γ . Latior, præcipue læte cuprea, capite thoraceque viridibus, elytris planioribus guttis marginalibus nullis, fascia, media intus valde abbreviata, lunula apicali parva.

- a. Capite thorace elytrisque margine latiore viridibus. *C. splendida* Hentz, Trans. Am. Phil. Soc. 3, 254; tab. 2, fig. 3: Lec. Ann. Lyc. Nat. Hist. 4, 176. *C. sexguttata* var. Fabr. Syst. El. 1, 241.
- b. Capituli thoracisque disco cupreo. (♀) *C. splendida* var. Klug, Jahrb. 1, 23.
- c. Purpureo-cyanea, elytrorum disco obscure viridi. (♀)

Extensively diffused, yet not with the races intermingled: the localities of the specimens observed are as follows: α . New York and New Jersey, on wooded hills: β —a. Eastport, Maine, Dr. Harris: β —b. Rockport, Ohio, and Fort Gratiot, Dr. Kirtland, also in Missouri, Dr. Hoy; β — γ . New York; γ —a and b. Southern and Western states; γ —c. Arkansas, Dr. Schaum. Very closely allied to the next, and in fact the only difference that can be perceived is the direction of the origin of the middle band which is perpendicular in the present, and oblique in the next: yet the specimen β —d would invalidate even this character. The head and thorax of the next are proportionally a little larger, and the thorax seems more narrowed behind, and less tubulated in front by the anterior constriction, but these differences are not very obvious.

14. *C. purpurea*, supra varicolor, thorace marginibus (exemplis nigris exceptis) viridibus, capiteque disco sæpius purpureo-cupreis, valde rugosis, elytris elevato-punctatis, sutura sæpissime virescente, fascia paulo sinuata subobliqua ad medium, lunulaque apicali sæpius interrupta albis, limbo laterali (exemplis nigris exceptis) late viridi minus distincte punctato, margine extimo cuprascente. Long. .5—·6.

- a. Capite thoracis elytrorumque disco purpureo-cupreis. *C. purpurea* Oliv. Ins. 33, No. 11, tab. 3, fig. 34: Herbst, Käfer, 10, 195; tab. 173, fig. 7: Say, Trans. Am. Phil. Soc. 1, 419, tab. 13, fig. 8: Gould, Bost. Journ. Nat. Hist. 1, 44. *C. marginalis* Fabr. Syst. El. 1, 240: Herbst, Käfer, 10, 175; tab. 171, 10: Dej. Sp. Gen. 1, 55; 5, 210.
- b. Capite thoracisque disco æneo-cupreis, elytris olivaceis.
- c. Nigra, labro maculisque solitis albis. *C. Audubonii* Lec. Bost. Journ. Nat. Hist. 5, 207; tab. 18, fig. 7; Ann. Lyc. Nat. Hist. 4, 176.

Variety a. is extensively diffused through the middle and Western States: varieties b. and c. occur only at the West. I have them from Lake Superior, Wisconsin, and Nebraska: in the last mentioned region the type did not occur. A specimen with dull green elytra and coppery reflections, which seems intermediate between a and b, occurred at New York.

GROUP VII.

Contains species of robust form, and mostly of large size; above of the usual metallic brown colour, but sometimes of a fine copper or purple colour. The labrum is moderately large, three toothed, almost always prominent in the middle; with the lateral angles obtuse. The labial palpi of the male are pale, with the last joint black. The head and thorax are finely granulate, the former is finely striate at the sides, with scattered white erect hairs on the front: the latter is usually convex, narrowed behind, with erect hairs towards the sides. The elytra are punctured, very finely, sometimes hardly perceptibly serrate towards the tips, which are conjointly rounded in both sexes, with a small sutural spine. The markings are usually broad; the humeral lunule is always entire and prolonged; the middle band almost rectangularly bent; the apical lunule entire: sometimes the whole outer margin is white. The under surface is with the exception sometimes of the middle of the pectus and abdomen, clothed with long coarse white hair: the anterior tarsi of the male are moderately broadly dilated.

Species inhabiting sandy places, and seen only when the sun is brightly shining. This group seems closely related to group VIII., but in that the labrum is almost truncate anteriorly, and the thorax is quadrate and less convex, and the elytra are more strongly serrate. Three principal forms.

1. Elytra dull, middle band dilated on the margin: (labrum 3-toothed, prominent.) *C. Ancociscenensis*, *venusta*, *generosa*, *formosa*, *latesignata*.

2. Elytra dull, spots not connected at the margin: (labrum 3-toothed, subtruncate.) *C. vulgaris*.

3. Elytra shining, spots not connected: (labrum prominent, obsoletely toothed.) *C. fulgida*.

C. Ancociscenensis affiliates by its markings with *C. baltimorensis*; while *C. vulgaris* is evidently by the labrum and form of body allied to *C. purpurea*, which differs by the entirely black palpi, the interrupted humeral lunule, and the not serrate elytra.

15. *C. Ancociscenensis* supra æneo-brunnea, capite granulato, fronte albosetosa, utrinque subtiliter striata, thorace convexo, latitudine paulo brevior, postice subangustato, granulato, lateribus parce albo-setosis, elytris punctatis, ad apicem rotundatis obsolete serratis, lunula curvata humerali, altera apicali superne inflexa fascia angusta media obtuse refracta lineæ marginali adjuncta albis; subtus viridi-ænea lateribus minus dense albo-setosis; labro sexus utriusque longiusculo, albo, tridentato. Long. .6.

Mas palpis labialibus articulo penultimo pallido.

Harris, Family Visitor, (Cleveland, Ohio,) 2, No. 39. Haldeman, Proc. Acad. Nat. Sc. 6, 361.

Found about the White Mountains, New Hampshire, by Dr. T. W. Harris, to whom I owe a fine series of specimens: a specimen was previously given me by Mr. Schafhirt, who found it in one of the public squares of Philadelphia. This species is very distinct from all other native species: the markings of the elytra resemble nearly in form those of *C. repanda*. Haldeman has stated that the maxillary palpi of the male are pale at base: this is undoubtedly an error of writing, as the labial palpi are meant.

16. *C. venusta*, cuprea, opaca, capite thoraceque granulato-rugosis, viridi variegatis, fronte albo-setosa, utrinque striata, thorace convexo, latitudine brevior, postice subangustato, lateribus longe albo-setosis, elytris punctatis versus basin parce granulatis, ad apicem subtiliter serrulatis, lunula humerali oblique prolongata, fascia media perpendiculariter refracta, lunulaque apicali latis ad marginem cohærentibus albis, limbo extimo epipleurisque æneo-viridibus; subtus viridi-ænea longe albo-pilosa, pectore medio glabro: labro sexus utriusque albo maiusculo, prominulo subtiliter tridentato. Long. .55—60.

Mas palpis labialibus articulo penultimo pallido.

Leconte, Ann. Lyc. Nat. Hist. of New York, 4, 179; tab. 13, fig. 6.

On sandy places near the Forks of Platte River. More slender and more convex than *C. generosa*, and distinguished by the larger and more prominent labrum.

17. *C. generosa*, crassiuscula, supra fusco-ænea, vel nigro-purpurea, opaca, capite granulato-rugoso, fronte striata albo-setosa, thorace latitudine brevior, granulato-rugoso postice subangustato, lateribus albo-setosis, elytris punctatis parce granulatis, ad apicem subtilissime serratis, lunula humerali oblique prolongata, fascia media perpendiculariter refracta, lunulaque apicali antice inflexa latis, albis ad marginem cohærentibus, limbo extimo epipleurisque æneis; subtus viridi-ænea, longe albo-pilosa, pectoris abdominisque medio glabro, pleuris purpureo-variegatis; labro sexus utriusque albo medio prolongato, tridentato. Long. .6—7.

Mas thorace convexo, postice subangustato, palpis labialibus articulo penultimo pallido.

Femina thorace minus convexo postice vix angustato, palpis labialibus articulo penultimo piceo.

Dej. Sp. Gen. 5, 231: Gould, Bost. Journ. Nat. Hist. 1, 42; tab. 3, fig. 2.

C. obliquata ‡ Kirby, Fauna Bor. Am. 4, 10.

Variat maculis albis latioribus, ita ut lunulæ humeralis margo posticus marginem perpendiculariter ferit; lunula postica quoque lobata haud inflexa apparet.

Middle and Western States, (Connecticut, Pennsylvania, Wisconsin, Minnesota.) The variety is rare: but at a locality on the Mississippi above the Falls of St. Anthony I found them quite abundant: in one specimen the markings are fully as dilated as in *C. formosa*, from which it differs only by the middle band being rectangularly bent.

18. *C. formosa*, crassiuscula, supra cuprea, vel cupreo-purpurea, opaca, capite granulato-rugoso, fronte striata albo-setosa, thorace latitudine brevior granulato-rugoso, postice subangustato, lateribus albo-setosis, elytris punctatis parce granulatis ad apicem vix serrulatis, lunula humerali, fascia media obtuse sinuata lunulaque apicali dilatatis albis ad marginem late cohærentibus, limbo externo epipleurisque æneis; subtus viridi-ænea albo-pilosa, pectoris abdominisque medio glabro; labro sexus utriusque albo, medio paulo prolongato tridentato. Long. .64—7.

Sexus differentia sicut in *C. generosa*.

Say, Journ. Acad. Nat. Sc. 1, 19; Am. Ent. tab. 18; Dej. Sp. Gen. 2, 424; Lec. Ann. Lyc. 4, 180.

Valley of the Nebraska River, near sand hills. The marks of the elytra are always very broad, and the humeral lunule, though obliquely prolonged, is so dilated that its posterior outline is perpendicular to the sides: the only satisfactory difference between it and *C. generosa* is found in the middle band being only obtusely bent, and much less deflexed than in the last named species.

19. *C. latesignata*, supra fusco-nigra opaca, capite thoraceque granulatis rugosis æneo-tinctis, fronte subtilius striata albo-setosa, thorace latitudine brevior, postice vix angustato, parum convexo, lateribus albo-setosis, elytris

fortius punctatis, ad apicem rotundatis vix serrulatis, lunula humerali oblique prolongata, apicali antice inflexa fasciaque media rectangulariter refracta, ad marginem expansa, latis albis; subtus viridi-ænea, longe pilosa, pectore medio glabro: labro sexus utriusque breviusculo, medio tridentato parum prominulo. Long. .5.

Mas palpis labialibus articulo penultimo pallido.

Femina palpis concoloribus, (thorace elytrisque adhuc minus convexus.)

Leconte, Ann. Lyc. Nat. Hist. of New York, 5, 172. Chaud. Bull. Mosc. 1854.

Variat maculis elytrorum latissimis confluentibus.

San Diego, California, on the sea shore, and in salt marsh. Though allied to *C. generosa*, the form is less convex, the elytra are more strongly punctured, and the labrum is shorter. Baron Chaudoir states that it closely resembles the Asiatic *C. lateralis*.

20. *C. vulgaris*, æneo-fusca opaca, fronte striata albo-setosa, capite thoraceque granulatis rugosis, hoc latitudine plus sesqui brevior, parum convexo, trapezoideo, fortiter transversim impresso, lateribus parce albo-pilosis, elytris punctatis, parce granulatis, parum convexus, ad apicem obsoletissime serrulatis, lunula humerali oblique prolongata, apicali antice inflexa, fasciaque media rectangulariter refracta angustis albis; subtus viridi-ænea longe minus dense albo-setosa, pleuris cupreis; labro sexus utriusque albo breviusculo tridentato. Long. .52—.65.

Mas palpis labialibus articulo penultimo pallido; labro minus acute dentato.

Say, Trans. Am. Phil. Soc. 1, 409; tab. 13, fig. 1. Kirby, Fauna Bor. Am. 4, 10: Gould, Bost. Journ. Nat. Hist. 1, 43.

C. obliquata Dej. Sp. Gen. 1, 72.

Variat. a. Lunula humerali fere obsoleta.

b. Viridis, macula humerali interrupta. Lec. Ann. Lyc. 4, 179.

Apparently found in almost every part of the United States. New York, Georgia, Wisconsin, Missouri. The green specimen was found by Dr. Townsend on his journey to the Pacific, through the Rocky Mountains, and was given me by Mr. Willcox. The variety with indistinct humeral lunule was taken on the banks of the Ohio River, below Louisville. In form this species entirely resembles *C. purpurea*, and bears but a remote resemblance (except in the forms of the markings) to *C. generosa*. The description given by Kirby of *C. obliquata* can however be referred to no other species but *C. generosa*, from which he separates the present by a number of characters of little value, neglecting the obvious differences.

21. *C. fulgida*, purpureo-cuprea, capite thoraceque rugosis, fronte striata albosetosa, antice viridi, thorace convexo, latitudine parum brevior postice subangustato, lateribus albosetosis, elytris valde punctatis nitidis, ad apicem subtilissime serrulatis, lunula humerali oblique prolongata, fascia media rectangulariter flexa, lunulaque apicali antice inflexa latis albis; subtus viridi-ænea ad latera longe albopilosa; labro breviusculo, medio prominulo subtilius tridentato. Long. .5.

Mas palpis labialibus articulo penultimo pallido; labro vix obsolete dentato.

Say, Journ. Acad. Nat. Sc. 3, 141: Lec. Ann. Lyc. Nat. Hist. of New York, 4, 179; tab. 13, fig. 5.

Platte river valley on sandy places. In one specimen the middle band of the elytra is slightly dilated along the margin (as may be occasionally seen in *C. vulgaris*) but it would never become united with either of the lunules. The form of this species is more slender than that of *C. generosa* &c.

GROUP VIII.

Contains several species of a not slender form, with the thorax subquadrate and more flattened in the females than the males: the elytra are strongly punctured with intermixed granules, they are rounded and finely serrate at tip; in the females they are more or less dilated on the sides; the spots are normal, sometimes interrupted, sometimes connected on the margin, the medial band is perpendicularly bent. The head and thorax are finely rugous and granulate, the front is finely striate near the eyes, and is pilose in our native species; the labrum is moderately short, the middle tooth being acute and prominent, while the others are indistinct, and frequently wanting. The labial palpi at least of the male are pale at base. Sides of the thorax and body beneath hairy.

The species may be divided into three principal forms:

1. Lunules interrupted, middle band not dilated on the margin. *C. oregona* and *guttifera*.
2. Middle band dilated on the margin, humeral lunule curved, sometimes interrupted. *C. 12-guttata* and *baltimorensis*.
3. Middle band dilated on the margin, humeral lunule perpendicularly bent. *C. hirticollis*.

22. *C. oregona*, fusco-ænea, vel cyanea, fronte parce pilosa, utrinque subtiliter striata, thorace latitudine brevior, subquadrato, postice vix angustato, elytris pone humeros obtusos sensim latioribus, postice fortiter serratis, spina suturali prominula, punctatis granulatis, lunulis late interruptis, fascia media rectangulariter refracta ad marginem haud latiore albis; subtus cyaneo-ænea, pleuris albo-pilosis; labro albo unidentato. Long. 4—55.

Mas palpis labialibus articulo penultimo pallido. Femina elytris magis dilatatis, palpis concoloribus nigris.

C. duodecimguttata ‡ Ménétriés, Bull. Soc. Imp. St. Petersb. 2, 52; et auctorum aliorum, (sine descriptione.)

Oregon Territory and Northern California, as far as San Francisco. Of the same form as *C. 12-guttata*, but having the elytra of the female more dilated, and the apical serratures and the sutural spine much more distinct.

The white spots of the elytra are large and conspicuous, but show no tendency to unite along the margin; they are thus placed: a humeral spot; a middle fascia bent at a right angle, and then curved towards the suture, terminating in a round spot: an apical spot, and two round submarginal spots, one midway between the humerus and middle band, the other between the band and the tip, but rather nearer the latter. The specimens from Oregon were collected by Dr. J. G. Cooper, they are all blue, or of a dull olive green above: the specimen found by me at Benicia is above of a fuscous bronze colour varied with coppery and brassy, as in our common *C. baltimorensis*.

22'. *C. —*, capite omnino sicut in præcedente, thorace—? elytris fortius punctatis, ad apicem serratis, spina suturali prominula, lunulis humerali apicalique interruptis, fascia media oblique oriente, obtuse refracta.

Here seems the proper place to refer some fragments of a specimen collected by Dr. Cooper at Prairie Pass, Oregon. The head is not in the least respect different from that of the preceding, but the elytra are less dilated and less strongly serrate: the surface is more strongly punctured, and the middle band does not arise perpendicularly (as in all

the other species of this group) but is oblique, and only obtusely bent, terminating, however, as in the preceding, in a round spot. The body beneath is bluish green. I have already indicated this species (Proc. Acad. Nat. Sc. 7, 16) as perhaps allied to *C. longilabris*, but on farther examination it appears to have no relation to that species.

23. *C. guttifera*, fusco-ænea, fronte parce pilosa, utrinque subtiliter striata, thorace latitudine brevior subquadrato, postice vix angustato, elytris pone humeros obtusos sensim latioribus, postice rotundatis subtilius serratis, spina suturali parva haud prominula, punctatis granulatis, lunulis late interruptis, fascia media rectangulariter refracta, ad marginem haud latiore albis, subtus viridi-ænea, pleuris omnibus cupreis albo pilosis; labro albo unidentato. Long. .5.

Mas latet.

Santa Fe, New Mexico, collected by Mr. Fendler. Resembles precisely in its form and markings *C. oregona*, but differs in having the tip of the elytra less serrate, and the sutural spine not prominent. The copper pleuræ afford also a good character for its separation: these are, however, found in *C. 12-guttata*, from which the present differs by the middle band being not at all dilated on the margin, and by the completely isolated spots into which the lunules are divided.

24. *C. duodecim-guttata*, supra nigra, fusco-ænea, vel etiam cuprascens et cyanea, fronte parce pilosa, utrinque subtiliter striata, thorace latitudine brevior subquadrato, postice subangustato, lateribus albo-pilosis, elytris pone humeros sensim latioribus, postice rotundatis subtilius serratis, spina suturali haud prominula, granulatis punctatis, (punctis sæpe vix distinctis,) lunula humerali curvata apicalique sæpe interruptis, fasciaque media rectangulariter refracta, in striga marginali oriente albis; subtus viridi, vel cyaneo-ænea, lateribus albo-pilosis, pleuris cuprascens, labro albo unidentato. Long. .47—.54.

Mas palpis labialibus articulo penultimo pallido: femina palpis concoloribus, elytris latioribus.

Dej. Sp. Gen. 1, 73; Gould, Bost. Journ. Nat. Hist. 1, 51; tab. 3, fig. 3.

C. Proteus Kirby, Fauna Bor. Am. 4, 9.

Lake Superior, New York, near water, usually on causeways over marshes, or on the shores of lakes. Varies considerably, not only in the spots, which are sometimes entire, and sometimes interrupted, or even obsolete, but also in colour, as mentioned in the diagnosis: the sculpture too varies, because in the specimens of a black colour, the punctures vanish, and the elytra seem only sparsely granulate. When the colour is bronzed olive or coppery, the punctures are blue, and are very distinct.

Perfectly marked specimens, as well as those of coppery and greenish colour, have been found by me, only at Lake Superior: but a remarkable specimen of a fine blue colour with very complete marks was taken by Dr. Kirtland at Fort Gratiot, and kindly presented to me. Those found near the Atlantic vary but little, being of a dull blackish bronze colour, with the marks interrupted: the marginal white line connected with the middle band disappears occasionally, but the markings of the middle band are then extremely small and imperfect, so that even such specimens could not be confounded with the two preceding species.

The most perfectly marked specimens greatly resemble the next species, but are readily known by the shorter and less convex thorax, and by the elytra of the female being only gradually dilated, behind the shoulders, and by the black maxillary palpi of the male.

25. *C. baltimorensis*, fusco-ænea, fronte utrinque subtiliter striata, parce pilosa, thorace subquadrato, convexiusculo, lateribus albo-pilosis, elytris pone humeros latioribus punctatis granulatis, ad apicem rotundatis serrulatis, spina suturali prominula, lunula humerali curvata, altera apicali antice inflexa, fasciaque media rectangulariter fracta in linea marginali oriente albis; subtus viridi-ænea, lateribus pilosis, pleuris cupreis; labro brevi unidentato; palpis labialibus sexus utriusque articulo penultimo pallido. Long. .47.

Mas palpis pallidis articulo ultimo nigricante, elytris subparallelis.

Femina palpis maxillaribus nigris, elytris pone humeros subito paulo latioribus.

Herbst, Käfer, 10, 180, tab. 172, fig. 3.

C. repanda Dej. Sp. Gen. 1, 74: Kirby, Fauna Bor. Am. 4, 9, tab. 3, fig. 1.

C. hirticollis† Gould, Bost. Journ. Nat. Hist. 1, 49.

Lake Superior, New York, Missouri, Georgia. Does not vary perceptibly in its characters; the marginal line of the elytra never reaches either of the lunules. One specimen occurred at New York having the middle fascia abbreviated at tip, so as to be less strongly bent than usual. I do not know how Herbst's description of this species has been overlooked, for it is quite satisfactory.

26. *C. hirticollis*, olivaceo-ænea cyaneo variegata, vel fusco-ænea, vel fusca vix ænescens, fronte albosetosa, utrinque striata, thorace quadrato postice haud angustato lateribus valde pilosis, elytris fortius punctatis (punctis sæpissime cyaneis,) ad apicem oblique rotundatis, serratis spina suturali prominula, lunula humerali perpendiculariter flexa et hamata, apicali antice inflexa, fascia media subito fere acute refracta in striga marginali lunulæ humerali adjuncta albis; subtus cyaneo-viridis, lateribus valde pilosis, pleuris cupreis; labro brevi medio prominulo unidentato; palpis omnibus sexus utriusque pallidis articulo ultimo æneo. Long. .45—.62.

Mas elytris pone humeros vix latioribus.

Femina elytris pone humeros subito rotundatim paulo dilatatis.

Say, Journ. Acad. Nat. Sc. 1, 20. Trans. Am. Phil. Soc. 1, 411, tab. 13, fig. 2. Kirby, Fauna Bor. Am. 4, 8.

Le Conte, Ann. Lyc. Nat. Hist. 4, 180: Chaud. Bull. Soc. Imp. Nat. Mosc. 1854.

C. albohirta Dej. Sp. Gen. 2, 425: Gould, Bost. Soc. Nat. Hist. 1, 49, tab. 3, fig. 1.

C. grvida Lec. Ann. Lyc. Nat. Hist. 5, 170.

C. unita Kollar, Ann. Wien. Mus. 1, 330.

Variat maculis plus minusve oblitteratis; etiam linea marginali lunulam apicalem vel attingente, vel abbreviata.

Found abundantly on the shores of both of the Atlantic and Pacific oceans, and the Gulf of Mexico, along our whole coasts; also on Lakes Ontario, Erie, and Superior: specimens occur, though less abundantly, on the rivers of the central and western parts of the Continent; *e. g.* Platte, Arkansas and Gila. The synonym last named was made on specimens from California, and presented slight differences which with a larger series of specimens have disappeared.

The figure and description given by Say in the Trans. Am. Phil. Soc. represent perfectly this species, but the short description in the Journal of the Academy is very indefinite, and

with the false locality, (Pennsylvania,) has led several entomologists to suppose it intended for the preceding species: it is quite likely that Say at that time confounded them together, but the expressions, "thorax very hairy," and "band is divaricated on the margin, so as to join the anterior lunule," lead me to refer the description to the present species.

GROUP IX.

One species of a slender form, with the labrum moderate, with the middle tooth prominent: palpi pale with black tips: head bald, slightly striate each side: thorax subcylindrical, hairy at the side. Elytra punctured, with long slender markings, medial band slightly bent, oblique, connected with a marginal white line; tips rounded finely serrate: those of the female very slightly suddenly dilated. Body beneath with dense not erect white hair, middle of pectus and abdomen glabrous.

Affiliates with group XII., but the humeral lunule is not recurved, the trochanters are not red, and the head is not pubescent. Also with the next group—but the tips of the elytra are serrate, and the middle tooth of the mandibles is not smaller than the others.

This group has most of the essential characters of the preceding, and is distinguished from *C. baltimorensis* by its slender form, and very elongated and oblique medial band; it leads through the next to others hereafter treated of, and interrupts the passage to group XI., which should properly follow group VIII.

27. *C. tenuisignata*, elongata, fusco-ænea, capite glabro subtiliter granulato, prope oculos striato, thorace latitudine haud brevior, subcylindrico, vix canaliculato, subtiliter granulato, pilis haud erectis ad latera parce vestito, elytris punctatis, antice parce granulatis ad apicem rotundatis serratis, spina suturali prominula, lunula humerali curvata, apicali antice inflexa, linea media elongata obliqua obtuse angulata in striga marginali quæ lunulas haud attingit oriente, tenuibus albis; subtus viridi-ænea, lateribus pube depressa dense vestita, pleuris cuprascentibus; labro brevi albo unidentato, palpis sexus utriusque pallidis articulo ultimo æneo. Long. .43—.47.

Leconte, Ann. Lyc. Nat. Hist. of New York, 5, 171, (1852.)

? *C. californica* Ménétériés, Bull. Soc. Imp. St. Petersb. 2, 52, (1843.)

New River, Colorado Desert, California: found also in Texas on the Rio Grande by Mr. Schott, of the Boundary Commission, and by Dr. Berlandière. The description given by Mr. Ménétériés of *C. californica* applies to this species so far as it goes, but it is extremely imperfect, and I do not feel authorized in suppressing the name given by me. I may add that Mr. Motschulsky, who possesses a specimen of *C. californica*, failed to recognise the species in my collection. In order, however, to save a reference to a rare work, I copy the original description.

'*C. californica*, parallela, obscure ferruginea subtus albo-pilosa; elytris lunula humerali, apicalique integris, fascia media extus dilatata (lunulam humeralem fere attingente) intus hamulo oblique descendente albis; pedibus gracilioribus longissimis.

'Cette espèce a quelque ressemblance avec la *C. spinigera* Eschsch. de son Atlas zoologique, mais elle est

beaucoup plus étroite, plus parallèle et la lunule du milieu se dilate sur le bord externe, de manière à rejoindre presque la lunule humérale et descend extérieurement aussi bas que la branche antérieure de la lunule apicale; de plus la lunule du milieu, partout d'égale largeur, descend obliquement jusqu' au deux tiers de la largeur de l'élytre; les jambes sont très longues et grêles. Le dessous du corps est couvert de poils blancs très serrés.'

GROUP X.

Moderate-sized, subcylindrical, but somewhat robust species, with sericeous surface rarely with any metallic gloss. Head glabrous, striate each side. Labrum short with one prominent, and two obsolete teeth. Palpi pale with darker tips in the male or in both sexes. Thorax quadrate, rounded, or subcylindrical, hairy on the sides. Elytra not serrate, conjointly rounded in the male, with the suture slightly retracted in the female. The medial band is oblique, and long: the humeral lunule is also prolonged: these markings are frequently connected by a broad white marginal band, but the white is separated from the outer edge by a stripe of black, which is quite conspicuous. From this it results, that in the varieties with obsolete markings the medial band does not reach the margin as usual. The under surface is metallic green, slightly hairy on the sides; the anus is black: the tibiæ are usually testaceous at base.

The middle tooth of the mandibles is smaller than the others, though not so conspicuously so as in group XXI.

28. *C. imperfecta*, supra fusco-atra opaca sericea, ænescens, capite utrinque striolato, thorace quadrato, postice subangustato, lateribus parce pilosis, elytris viridi-punctatis, lunula humerali oblique valde prolongata, apicali antice inflexa, fasciaque media elongata obliqua sinuata extrorsum abbreviata albis, subtus viridi-ænea, lateribus subtilius pilosis; labro brevi albo unidentato, palpis maxillaribus (feminae) nigro æneis, labialibus pallidis articulo ultimo æneo: Long. 45.

Leconte, Ann. Lyc. Nat. Hist. 5, 171.

One female from Sacramento. The maxillary palpi of the male are undoubtedly pale with dark tip as in the other species of this group.

29. *C. pusilla*, atra opaca, haud ænescens, capite utrinque striato, thorace latitudine vix brevior, lateribus rotundatis pilosis, postice angustato, elytris pone humeros sensim latioribus, parce punctatis, lunula humerali curvata, apicali antice inflexa, strigaeque media obliqua extrorsum dilatata tenuibus albis, subtus ad latera parce pilosa; tibiis ad basin pallidis; labro albo tridentato, palpis sexus utriusque pallidis apice nigricantibus. Long. 45.

Say, Journ. Acad. Nat. Hist. 1, 31. Trans. Am. Phil. Soc. 1, 424; tab. 13. Dej. Sp. Gen. 2, 432: Lec. An. Lyc. Nat. Hist. 4, 183. Variat elytris nigris immaculatis

Platte River valley, on moist mud.

30. *C. cinctipennis*, supra olivacea, vel fusco-ænea, vel atra, sericea, capite utrinque striato, thorace latitudine vix brevior, lateribus rotundatis albo-pilosis, postice angustato, elytris subparallelis, fortius punctatis, lunula humerali curvata, apicali antice inflexa, fasciaque media obliqua sinuata extrorsum in linea submarginali oriente albis; subtus viridi-ænea lateribus parcius albo-pilosis, tibiis ad basin testaceis; labro brevi albo tridentato; palpis sexus utriusque pallidis articulo ultimo nigro. Long. 45.

Leconte, Ann. Lyc. Nat. Hist. 4, 182.

Variat maculis elytrorum late confluentibus, ita ut vitta lata submarginalis efformatur ramo antico obliquo, altero ad medium sinuato, loboque anteapicali rotundato prædita. Loc. cit. tab. 14, fig. 12.

Platte and Arkansas River on muddy plains. Nearly allied to the preceding, from which the more strongly punctured and more parallel elytra, and the complete white markings distinguish it. The trochanters are usually dark testaceous.

31. *C. cyanella*, gracilis, obscure cyanea, sericea, capite utrinque striato, thorace latitudine fere longiore, lateribus subrotundatis albo-pilosis, postice subangustato, elytris fuscis pone humeros sensim latioribus, fortius cyaneo-punctatis, lunula humerali curvata, apicali antice inflexa, guttaque ad medium brevi submarginali intus prominula albis; subtus ad latera albo-pilosa, tibiis medio obsolete testaceis; labro albo brevi subtridentato, palpis (maris) pallidis articulo ultimo nigro, maxillaribus basi piceis. Long. .36.

One specimen collected at the Yellowstone River, Upper Missouri, by Dr. Hayden. Related to the two preceding, but distinguished by its smaller size, and more slender form. From *C. cinctipennis* it differs in having the elytra with the form and markings of *C. pusilla*, and from the latter by the deep and large punctures. The maxillary palpi are brownish at the base, but this may be an individual variation: the anus and trochanters are testaceous.

GROUP XI.

Maritime species having broad depressed white elytra, which are angulated laterally in the female: the suture and oblique lines are dark metallic green. The thorax of the female is dilated posteriorly: the front is glabrous, finely striate; in our species the right mandible of the male is inferiorly dilated into an obtuse tooth near the tip, but in the South American *C. nivea*, this is not observed. The palpi are pale with dark tips. The body beneath is densely clothed with white hair, only the middle of the pectus and abdomen is glabrous. Legs very long; first joint of anterior tarsi of males hardly dilated, 3rd joint very perceptibly oblique; claws larger than usual. The tips of the elytra are obliquely narrowed, and separately rounded in the female, but in the male they are conjointly rounded. The change in pattern of the elytral markings is owing to the presence of a basal spot; the ordinary markings are broad, and the humeral lunule is prolonged along the suture till it reaches the much deflexed and somewhat tortuous medial band.

32. *C. dorsalis*, capite thoraceque olivaceo-æneis, subtiliter rugosis, illo glabro fronte vage bisulcata utrinque striolata, thorace albo-pubescente, latitudine brevior lateribus late rotundatis, elytris punctatis ad apicem serrulatis, albidis, sutura lineisque tribus viridi-æneis (antere semper cum sutura confluentes;) subtus ænea dense albo-pubescent, pectore medio abdomineque glabris, hoc purpurascens ano testaceo: labro amplo albo unidentato, palpis pallidis apice nigro-æneis. Long. .55—.6.

Mas mandibulo dextro subtus longe dentato; thorace postice vix ampliato; elytris lateribus late rotundatis.

Femina thorace postice ampliato, angulis productis; elytris pone humeros distincte angulatis, margine paulo explanato.

Say, Journ. Acad. Nat. Hist. 1, 20; Trans. Am. Phil. Soc. 1, 415; tab. 13, fig. 5: Gould, Bost. Journ. Nat. Hist. 1, 47.

C. signata Dej. Sp. Gen. 1, 124.

Variat elytris albidis sutura sola viridi-ænea, (mas.)

Atlantic coast of Middle and Northern States; very abundant on the open sandy sea-shore.

33. *C. media*, olivaceo-ænea, capite glabro, fronte vage bisulcata utrinque striolata, thorace latitudine haud brevior, albopubescente lateribus parum rotundatis, elytris punctatis albidis, sutura lineisque obliquis tribus (antere cum sutura confluyente) viridi-æneis, ad apicem serrulatis, subtus viridi-ænea dense albo-pubescent, pectore abdomineque medio glabris, ano testaceo, labro amplo albo unidentato, palpis pallidis ad apicem nigro-æneis. Long. .48—.53.

Mas thorace postice haud latiore, elytris lateribus rotundatis; mandibulo dextro subtus longe dentato.

Femina thorace postice paulo ampliata, angulis productis; elytris pone humeros angulatis, margine parum explanato.

Sea coast of Georgia, and South Carolina. Very similar to the preceding, but always smaller: the narrower and less rounded thorax and the narrower elytra induce me to consider it as a separate species. The sexual characters are precisely as in *C. dorsalis*. The posterior one of the three oblique lines of the elytra is frequently connected with the suture.

34. *C. Saulcyi*, olivaceo-ænea, capite glabro, fronte vage bisulcata, utrinque striolata, thorace latitudine haud brevior, albopubescente lateribus rotundatis, elytris punctatis albidis, sutura lineisque tribus obliquis (sæpe cum sutura coniunctis) viridi-æneis, ad apicem serrulatis, subtus viridi-ænea dense albopubescent, pectore abdominisque medio glabris, ano testaceo, labro amplo albo unidentato, palpis pallidis ad apicem nigro-æneis.

Mas thorace postice vix ampliata, elytris lateribus late rotundatis; mandibulo dextro subtus breviter obtuse dentato. Long. .36—.41.

Femina thorace postice valde ampliata, angulis paulo productis, elytris pone humeros obtuse angulatis vix explanatis. Long. .37—.43.

Guérin, Rev. Zool. 1840, p. 37; 1841, 96.

C. venusta Féré, Rev. Zool. 1841, 37.

Variat elytris albidis sutura sola ænea; femina.

Sea shore of the Gulf of Mexico (Texas, Louisiana, Florida:) the variety was found at Key West, by Dr. W. L. Jones. This species is also very closely related to the two preceding, and except by the difference in size and in the form of the inferior tooth of the right mandible of the male, is hardly separated from *C. dorsalis*. The elytra are however narrower in both sexes, and the thorax is somewhat longer and less rounded on the sides. The bronze markings of the elytra are usually much broader, and the posterior one is frequently lobed.

GROUP XII.

Maritime, salt marsh, or fluviatile species, having the right mandible of the male sometimes toothed near the tip, as in the preceding group, but sometimes, (form 2,) normal.

The thorax has more or less elevated posterior angles, and in the female is sometimes wider towards the base. The form is nearly cylindrical, the front is hairy, finely striate each side. The elytra of the female are somewhat wider than those of the male. The markings are either narrow or wide; the humeral lunule is recurved posteriorly, the middle band is long and fimbriate, sometimes tortuous; the whole lateral margin is white, the apical lunule is lost in the white margin, but is slightly dilated at the suture and at the anterior extremity; they are also marked, except in *C. sperata*, with a large basal spot: the tips are feebly serrate. The body beneath is densely clothed with white hair, with the middle of the pectus and the abdomen glabrous. The legs are long, and the trochanters are red. The labrum is three-toothed, but the middle tooth is more prominent; the palpi are pale with dark tips.

Two principal forms may be distinguished:

1. Salt water species having the elytra rounded on the sides, with the suture of the female retracted, and the tips separately rounded. *C. lacerata* and *marginata*.

2. Fluvial species with cylindrical elytra, which in the female are obliquely sinuate and armed with an external tooth near the tip. *C. cuprascens*, *blanda*, *macra*, *sperata*.

35. *C. lacerata*, olivaceo-ænea, capite thoraceque subtiliter albo-pubescentibus, hoc quadrato, latitudine sublongiore, elytris latiusculis confertim punctatis, macula basali, margine lato lobato, ramo humerali subobliquo hamato, fascia media refracta elongata fimbriata, lunulaque apicali utrinque inflexa albis, ad apicem serrulatis singulatim rotundatis, spina suturali distincta; subtus dense albo-pubescentibus, medio glabra, pedibus longissimis, trochanteribus rufis; labro albo unidentato. Long. 42—45.

Mas thorace lateribus vix rotundatis, mandibulo dextro dente inferiore obtuso armato; elytris sutura modice retracta.

Femina thorace lateribus paulo rotundatis; elytris sutura valde retracta

Chaudoir, Bull. Soc. Imp. Moscow, 1854.

Louisiana and Florida, on the coast of the gulf of Mexico. Quite distinct from the following by the broader elytra of the female not being deflexed at tip, and by the inferior tooth of the right mandible of the male being obtuse, and by the difference in the apical angles of the elytra.

36. *C. marginata*, olivaceo-ænea, capite thoraceque subtilius albo-pubescentibus, hoc quadrato, elytris confertim punctatis ad apicem serrulatis, macula basali, margine lato lobato, ramo subhumerali subobliquo hamato, fascia media longa refracta fimbriata, lunulaque apicali utrinque inflexa albis; subtus dense albo-pubescentibus, medio glabra, trochanteribus rufis, pedibus elongatis; labro albo unidentato. Long. 43—55.

Mas thorace postice haud latiore, mandibulo dextro dente elongato inferiore armato, elytris spina suturali prominula.

Femina thorace postice subampliato, elytris sutura valde retracta ad apicem deflexis.

Fabr. Syst. El. 1, 241: Herbst, Käfer, 10, 206: Say, Trans. Am. Phil. Soc. 1, 417; tab. 13, f. 6: Gould, Bost. Journ. Nat. Hist. 1, 48.

C. variegata Dej. Sp. Gen. 1, 84.

Variat maculis obsoletis, margine lato, maculaque basali utrinque relictis.

On salt marsh in Massachusetts and New York: on the ocean beach of South Carolina and Georgia. The specimens from the latter localities are more perfectly marked, and the lobe representing the anterior extremity of the apical lunule is directed more obliquely inwards than in specimens from New York; but after a close comparison I have failed to find any specific differences.

37. *C. cuprascens*, modice elongata, cylindrica, cuprea, vel olivaceo-ænea, subnitida, capite thoraceque albo-pubescentibus, hoc latitudine haud longiore, lateribus rotundatis, elytris valde punctatis ad apicem serrulatis, macula basali, margine lobato, ramo subhumerali subobliquo hamato, fascia media fere tortuosa fimbriata, lunulaque apicali utrinque inflexa latis albis; subtus viridi-ænea dense albo-pubescentibus, medio glabra, trochanteribus rufis, pedibus longissimis; labro brevi unidentato. Long. 48—52.

Mas elytris ad apicem oblique subsinuatis, sutura haud retracta.

Femina elytris ad apicem oblique sinuatis, angulo externo acuto prominulo, sutura paulo retracta.

Lec. Proc. Acad. Nat. Sc. 6, 65.

C. blanda ‡ (var. β .) Lec. Ann. Lyc. Nat. Hist. 4, 180: Chaud. Bull. Mosc. 1854.

Missouri and Kansas: the anterior tibiæ are more or less testaceous. Baron Chaudoir regards this species as a variety of *C. blanda*; from the imperfections of Dejean's description such an inference might be readily made: it is however very different from the two allied species next described by its stouter form and more rounded thorax, by the more shining surface, by the coarser punctures of the elytra, and by the acute tooth at the external angle of the oblique sinuosity of the elytra of the female. It is quite possible, as many Coleoptera from the Western States have been sent to Europe, that this species has become extensively distributed as the veritable *C. blanda* Dej.

38. *C. blanda*, elongata subcylindrica, fusco-ænea, haud nitida, capite thoraceque albo-pubescentibus, hoc latitudine paulo longiore lateribus parum rotundatis, elytris subtilius punctatis, ad apicem oblique angustatis serrulatis, maculis albis sicut in priore, at valde dilatatis, (sutura ramisque quatuor obscuris relictis;) subtus dense albo-pubescentibus, medio glabra, trochanteribus rufis, pedibus longissimis, tibiis tarsisque fere testaceis; palpis pallidis apice obscuris, labro brevi unidentato. Long. 48.

Mas elytris oblique subsinuatis angustatis sutura prominula. Femina latet.

Dej. Sp. Gen. 5, 238: (var. γ .) Lec. Ann. Lyc. Nat. Hist. 4, 138.

C. tarsalis Lec. Proc. Acad. Nat. Sc. 6, 66.

Georgia and North Carolina, on the banks of rivers. On account of the comparison made between *C. blanda* and *C. variegata* (marginata) by Dejean, his description is somewhat obscure; and though possessing the female, he has not noticed the form of the apical sinuosity. Nevertheless I think that the one here described must be regarded as his species, for the following reasons: 1, because a similar specimen was sent to Dr. Harris by my father when the species was first discovered by him; 2nd, because the specimen now in my possession, although from another locality, came from the old collection of my father; and 3, because Dejean states that the white lateral margin of the elytra is wider posteriorly with the lunule obliterated, and that the elytra are less deeply punctured; nei-

ther of which characters is found in *C. cuprascens* or *macra*. The white markings are of the same form as in the preceding, but wider, so that the elytra appear white, with the suture as far as the middle and four branches dark-coloured: the first and second branches are oblique forwards and hooked, the third is small, straight and oblique backwards, while the fourth is oblique forwards, thickened at each end, and angulated near the suture.

39. *C. macra*, valde elongata, cylindrica fusco-ænea, capite thoraceque albo-pubescentibus, hoc latitudine fere longiore lateribus vix rotundatis, elytris confertim punctatis, ad apicem oblique angustatis serrulatis, macula basali, margine lobato, ramo subhumerali obliquo hamato, fascia media tortuosa fimbriata lunulaque apicali utrinque inflexa albis; subtus viridi-ænea, dense albo-pubescentibus, medio glabra, trochanteribus rufis, pedibus longissimis; palpis sexus utriusque pallidis ad apicem æneis, labro brevi unidentato. Long. 48—53.

Mas elytris subsinuatum oblique angustatis, sutura prominula.

Femina elytris magis sinuatim oblique angustatis, angulo externo obtuso haud rotundato, sutura haud prominula.

C. blanda † Lec. Ann. Lyc. 4, 190.

Wisconsin and Minnesota. More slender than *C. cuprascens*, and readily known by the elytra being more than twice as long as wide, less strongly punctured and not shining: the markings are of the same form, but narrower, and the external angle of the obliquely sinuate elytra of the female is obtuse, or at most rectangular.

40. *C. sperata*, elongata cylindrica, supra fusco-cuprascens haud nitida, capite thoraceque albopubescentibus, hoc latitudine fere longiore, lateribus parum rotundatis, elytris confertim punctatis, ad apicem oblique angustatis serrulatis, spina suturali prominula, margine, ramo subhumerali obliquo hamato, fascia elongata subtortuosa sæpe fimbriata, lunulaque apicali utrinque inflexa albis; subtus viridi-ænea, dense albo-pubescentibus medio glabra, pleuris cupreis; pedibus longissimis trochanteribus rufis; palpis et labro ut in prioribus. Long. 46—5.

Mas elytris oblique vix sinuatim angustatis: thorace postice haud ampliatus.

Femina elytris sinuatim oblique angustatis, angulo externo obtuso haud rotundato; thorace postice perparum ampliatus.

Rio Grande, at various places: collected by Messrs. Schott and Clark of the United States and Mexican Boundary Commission. Slightly more elongated than *C. cuprascens*, and easily distinguished from that as from the other species of this group by the absence of a basal white spot on the elytra. I incorrectly mentioned (Proc. Acad. 6, 439,) this species as *C. curvata* Chev.; in that species, however, the humeral branch is prolonged backwards parallel with the suture, and is not hamate.

One female specimen varies in having the lateral white margin of the elytra broader, so that the lobes of the apical lunule become wider and rounded.

GROUP XIII.

A small species with large prominent eyes, densely pubescent head and thorax, and pale legs: the elytra are flat, broad and white, with a few sinuous dark lines, the tip is

not at all serrate. Labrum short with one prominent tooth. Palpi of both sexes pale with dusky tips. Body beneath very densely clothed with white hair; middle of pectus and abdomen more thinly pubescent; anus testaceous.

This is the only species known to me having the sutural margin pale.

41. *C. lepida*, viridi-ænea, capite thoraceque dense albo-pubescentibus, hoc latitudine vix brevior lateribus parum rotundatis, elytris latiusculis minus convexus disperse punctatis, albis lineis utrinque duabus punctisque versus basin fuscis notatis, ad apicem haud serratis, spina suturali haud prominula, subtus dense pubescens, medio glabra, ano testaceo; pedibus antennis palpisque pallidis, his apice fuscis; labro albo unidentato. Long. 42—47.

Mas elytris oblique vix sinuatim angustatis.

Femina elytris sinuatim oblique angustatis, angulo externo obtuso haud rotundato apice ipso fere truncato: thorace quam in mare paulo latiore.

Dej. Sp. Gen. 5, 255: Lec. Ann. Lyc. Nat. Hist. 4, 181; tab. 13, f. 8.

Variat elytrorum lineis viridi-æneis.

Coney Island, near New York: Trenton, New Jersey: the variety was found in Missouri, and kindly given to me by Prof. Agassiz, and by Dr. Hoy. This species is found on very white sand, such as is seen forming sand-hills near the ocean.

GROUP XIV.

Maritime or salt marsh species of the ordinary form; the head is glabrous, slightly striate near the eyes, which are very large: labrum one-toothed, short: palpi of both sexes pale with black tips. Thorax very finely granulate, very sparsely hairy. Elytra with narrow markings hardly connected at the margin: middle band very tortuous; margin with a supplementary spot before the apical lunule. Under surface moderately hairy at the sides. Legs moderately long, slender; tarsi of the male as usual.

42. *C. ascendens*, supra fusco-ænea, thorace distincte subtiliter granulato, elytris disperse profunde viridi-punctatis, lunula humerali inflexa apice hamata, fascia media tortuosa cum linea brevi marginali coniuncta, macula laterali parva lunulaque apicali antice inflexa oblique prolongata vix hamata albis, ad apicem oblique rotundatis serrulatis. Long. 43.

Leconte, Ann. Lyc. Nat. Hist. 5, 172.

Georgia and West Indies. It is perhaps only a variety of the next, from which it differs only in having the anterior inflexed portion of the apical lunule obliquely prolonged, instead of being bent into a rounded hook.

43. *C. serpens*, supra fusco-ænea, thorace distincte subtiliter granulato, elytris disperse profunde viridi-punctatis, lunula humerali inflexa subhamata, fascia media tortuosa cum linea marginali coniuncta, macula laterali parva lunulaque apicali antice inflexa et hamata albis, ad apicem serrulatis. Long. 43—47.

Mas elytris subparallelis ad apicem oblique rotundatis.

Femina elytris pone medium latioribus ad apicem magis rotundatis.

Leconte, Ann. Lyc. Nat. Hist. 5, 173.

Key West, Florida, Dr. Jones. Differs from *C. sigmoidea* by the less dense punctures

of the elytra, and from *C. tortuosa* by the distinctly granulate thorax. Should it be necessary to unite the preceding with this species, let *C. serpens* be the name retained.

44. *C. sigmoidea*, supra fusco-ænea, thorace distincte subtiliter granulato, elytris confertim profunde viridipunctatis, lunula humerali inflexa subhamata, fascia media tortuosa, linea marginali cum fascia et macula laterali coniuncta, lunulaque apicali antice inflexa subhamata albis, ad apicem serrulatis. Long. 44—47.

Leconte, Ann. Lyc. Nat. Hist. 5, 172.

C. trifasciata var. Chaud. Bull. Mosc. 1854, 5, 172.

San Diego, California, on the sea-shore. Baron Chaudoir, to whom I sent specimens of this species, regards it as merely a variety of *C. tortuosa*, which varies somewhat in the width of the elytral markings. The great difference in the punctuation of the elytra, a character found in all the specimens collected, induces me to separate it from *C. serpens*, while the distinct granulation of the thorax prevents it being joined to the next species.

45. *C. tortuosa*, supra fusco-atra, thorace subtilissime granulato, elytris disperse viridipunctatis lunula humerali inflexa, fascia media tortuosa, linea marginali sæpe oblitterata, macula marginali lunulaque apicali antice inflexa subhamata tenuissimis albis, ad apicem serrulatis. Long. 43—48.

Mas elytris subparallelis.

Femina elytris pone medium latioribus.

Dej. Sp. Gen. 1, 87.

'*C. trifasciata* Fabr.' Klug, Jahrb. 1, 21: Chaud. Bull. Mosc. 1854: Lec. Ann. Lyc. 4, 181; tab. 14, fig. 10.

Georgia and Louisiana, on the mud of rice fields. Besides the finer and almost indistinct granulation of the thorax, the punctures of the elytra are smaller and less deep than in the other species of the group. The white markings are very narrow and frequently interrupted.

The '*C. trifasciata* Fabr.' figured by Olivier and Herbst, does not at all resemble this species, nor, as observed by Dr. Harris in a letter to me, can the original words of the Fabrician description '*striga secunda flexuosa*' be applied to it, since the same expression is used in the descriptions of *C. flexuosa* and *lurida*, in which the middle band is rectangularly bent, as in our *C. vulgaris* and many others. Moreover, the remark '*Habitat Italia paullo minor*,' (Ent. Syst. 1, 177) must be allowed to have some weight in the determination, and if the name be not applied to some West Indian species resembling one found in Europe, it should be entirely dropped, as tending to confusion.

GROUP XV.

A species of normal form; the head and thorax are very finely granulate, the former is glabrous and finely striate near the eyes; the latter is subcylindrical, convex and slightly rounded on the sides, which are sparingly pilose. Labrum one-toothed, labial palpi pale with the last joint dark; eyes large. Elytra finely serrate, with the tip rounded in both sexes, with a small sutural spine; densely punctured, with a row of unusually large foveæ near the suture: markings interrupted; the medial band from the position of the spots,

which are its relics, appears perpendicularly refracted, the apical lunule is inflexed anteriorly, and between it and the band is a marginal spot, which is sometimes prolonged anteriorly to the medial band. Under surface moderately hairy at the sides, legs long and slender. Anterior tarsi of the male narrowly dilated.

46. *C. punctulata*, supra fusco-atra, capite thoraceque ænescentibus, hoc latitudine vix brevior, subtilius granulato-rugoso, lateribus rotundatis, albo-pilosis, elytris oblongis ad apicem rotundatis subtiliter serratis, punctis albis sæpe obsoletis (quarum 4 marginalibus duabusque discoidalibus) lunulaque apicali tenui antice inflexa albis, fortius punctatis, foveisque cœruleis serie versus suturam impressis; subtus cyanea lateribus albo-pilosis; labro albo unidentato, palpis maxillaribus nigro-æneis, labialibus pallidis articulo ultimo æneo. Long. 44—55.

Oliv. 33, tab. 2, fig. 18: Fabr. Syst. El. 1, 241: Herbst, Käfer, 10, 173; tab. 171, f. 8: Dej. Sp. Gen. 1, 101: Gould, Bost. Journ. Nat. Hist. 1, 54: Lec. Ann. Lyc. Nat. Hist. 4, 182: Say, Trans. Am. Phil. Soc. 1, 420; tab. 13, f. 2.

C. micans Fabr. Ent. Syst. Suppl. 61: Herbst, 10, 180, tab. 172, 2. (var. magis ænescens.)

α. Supra læte viridis, vel cyaneo-viridis, capite thoraceque sæpe obscure cupreo-æneis.

From Maine to Texas, and as far west as Santa Fe: abundant on dry roads, and frequently seen in the streets of our largest cities. The form α is found in Kansas and New Mexico, with the ordinary variety. The punctures are more distant in the vicinity of the row of blue foveæ, wherefore, greasy specimens sometimes appear to have a nearly smooth longitudinal spot on each elytron. It would perhaps be more in accordance with scientific law to replace the name *micans* to this species, but it is so well known by the later name given by the same author, that it seems more proper not to make the change.

GROUP XVI.

A single species of a dull black colour above, with sericeous surface, but no metallic lustre except in the impressions; the head is glabrous, finely granulate behind, somewhat coarsely striate between the eyes, which are moderate in size; the labrum is yellowish white, rather large, broadly prominent and rounded in the middle, with a small middle tooth. Palpi piceous, with the last joint black: labial palpi of the male pale with the last joint black. Thorax cylindrical, finely alutaceous, not perceptibly granulate, and with only a few very fine rugæ. Elytra oblong, rounded behind and finely serrate, with distinct sutural spine: not deeply but distinctly punctured, with a row of shallow foveæ towards the suture.

Body beneath blackish blue, with fine but not dense white hair toward the sides.

Resembles in many of the characters *C. obsoleta*, but by the form and sculpture it is plainly allied to *C. punctulata*.

47. *C. corvina* nigra, opaca, sericea, fronte striolata, thorace quadrato, cylindrico, vix rugoso, ad latera parce piloso, elytris immaculatis minus profunde cœruleo-punctatis, foveis cœrulescentibus versus suturam serie impressis; subtus nigro-cyanea, lateribus subtilius albo-pilosis. Long. 48.

Northern Mexico, near the Rio Grande, Lieut. Haldeman. Though not known yet as

an inhabitant of our territory, I do not hesitate to introduce this species into our fauna, believing that its range will be found to extend north of the Rio Grande.

GROUP XVII.

A group containing species of rather flat form, brown metallic colour and sericeous surface, but specially remarkable for having the posterior lunule of the elytra represented by a large submarginal spot, while the terminal part, or lunule proper, is entirely wanting. The eyes are moderate, the head glabrous, finely granulate, striate near the eyes: labrum one-toothed: maxillary palpi green-bronzed; labial of both sexes pale with the last joint bronzed. Thorax quadrate, hardly rounded on the sides, deeply impressed, more flat in the female than in the male, alutaceous, not rugose or granulate. Elytra serrate at tip, broadly rounded, with sutural spine distinct, punctures not deep, subsutural foveæ not very distinct; with three marginal spots, one discoidal and one humeral round spot: beneath metallic blue, pubescent at the sides; abdomen of one species partly red. Two species of this group are known to me, both Mexican, of which one extends its range into Texas.

48. *C. decostigma*, obscura, fusco-ænea, fronte utrinque striolata, thorace quadrato alutaceo, vix rugoso, lateribus haud rotundatis parce albo-pilosis, elytris punctatis ad apicem serratis, spina suturali parva, macula humerali, tribus submarginalibus, alteraque discoidali inter secundam et postremam versus suturam, omnibus rotundatis albis: subtus cyanea, versus latera albo-pilosa, pleuris cupreis, labro albo unidentato; palpis labialibus sexus utriusque pallidis articulo ultimo æneo. Long. .5.

Chevr. Col. Mex. 1st cent. fasc. 3.

Fredericksburg, Texas, and Tampico, Mexico, Lieut. Haldeman, Rio Bravo: Dr. Berlandière. Very closely resembles *C. flavopunctata* Chevr.; but differs by its more dull colour, by the suture not being brilliant cupreous, and the last two joints of the abdomen being bluish black instead of testaceous.

GROUP XVIII.

Moderately elongate species with sericeous surface and red abdomen. The labrum is one-toothed; the labial palpi of both sexes are pale at the base, the maxillary are dark piceous at base. The head is glabrous striate each side. Thorax subquadrate, or subcylindrical, slightly hairy toward the sides. Elytra conjointly rounded at the apex in both sexes, and very obsoletely serrulate, moderately but not deeply punctured, with the normal markings divided into spots; the medial band short, sometimes not interrupted, usually (except in form 3,) in advance of its ordinary position; on the margin behind the medial band, and on the disc just before the apical lunule are additional spots. The legs are moderately long, and the dilated tarsi of the male moderate. The under surface is moderately hairy at the sides of the trunk and abdomen, very sparsely hairy about the thorax. There are three principal forms of which the second is found on rocky hills while the first is maritime. The habits of the third are unknown to me.

1. Thorax subquadrate; colour greenish black. *C. hemorrhagica*.
2. Thorax subcylindric; anterior spots of elytra large; colour blackish brown.
3. Thorax subcylindric; anterior spots of elytra wanting; colour blue. *C. cumatilis*.

49. *C. hemorrhagica*, cyaneo-nigra, sericea, capite thoraceque subtiliter granulatis, illo glabro versus oculos subtilissime striolato, hoc quadrato ad latera parce piloso, elytris haud profunde punctatis postice rotundatis subtiliter serrulatis, gutta humerali, altera sub-marginali antica, fascia oblique flexa ante medium, gutta marginali pone medium lunulaque apicali antice inflexa et cum macula discoidali connexa albidis, his omnibus sæpe oblitteratis; subtus virescente-nigra, ad latera parce pilosa, abdomine rufo. Long. 48—57.

Mas elytris parallelis.

Femina thorace planiusculo, elytris postice paulo latioribus.

Lec. Ann. Lyc. Nat. Hist. 5, 171. Chaud. Bull. Mosc. 1854.

San Diego, on the open ocean shore, June; abundant. The variety with immaculate elytra is about as numerous as the type: the only intermediate form I have observed is a specimen in which the marginal spots and the terminal lunule are all small, while the middle band and posterior discoidal spot are of the normal size. Baron Chaudoir mentions that "in this species we find the Mexican type *C. decostigma Chev.* (*mexicana Klug*), and *flavopunctata Chev.*, from which it is very distinct; the former also inhabits California."

With this opinion of my learned correspondent, notwithstanding the resemblance in the form of the thorax, I cannot entirely agree. The arrangement of the spots of the elytra proves that the relations are rather with *C. rufiventris*, Hentzii, &c. than with *C. decostigma*: *C. flavopunctata* (which is really *C. mexicana Klug*), has one character of the present group, in the abdomen being partly red, but to produce a similarity of spots, we must obliterate the terminal lunule, replace the discoidal by a submarginal spot, and destroy the marginal spot behind the oblique medial fascia.

50. *C. Hentzii*, fusco atra, capite thoraceque vix æneo-variegatis subtiliter granulatis, illo utrinque striolato, hoc parum rugoso subcylindrico, lateribus paulo rotundatis, elytris punctatis, postice rotundatis, subtiliter serrulatis, lunula humerali sæpe interrupta, fascia obliqua ante medium extrorsum cum linea marginali brevi coherente, macula marginali pone medium, lunulaque apicali antice cum macula discoidali connexa albis; subtus cyaneo-viridis ad latera albo-pilosa, abdomine toto rufo. Long. 42—48.

Mas elytris fere parallelis; femina elytris postice paulo latioribus.

Dej. Sp. Gen. 5, 428 (Hentzii:) Lec. Ann. Lyc. Nat. Hist. 4, 182.

C. hæmorrhoidalis || Hentz, Trans. Am. Phil. Soc. 3, 254; tab. 2, fig. 2: Harris, New Engl. Farmer, 7, 91; Gould, Bost. Journ. Nat. Hist. 1, 52; tab. 2, fig. 5.

Massachusetts, Dr. Harris. Precisely similar in form and sculpture to the next two species, and indeed so closely connected with them that the three might properly be considered as races of one species. In this, however, the colour is almost black, the two dots of the humeral lunule are connected at the margin; the middle band reaches the margin and is dilated into a short line, which extends forwards; the marginal spot behind the me-

dial fascia is sometimes connected also with this line; finally, the under surface is blue and green, without any admixture of copper.

51. *C. 16-punctata*, fusco-ænea, capite thoraceque viridi cupreoque variegatis, elytris cyaneo-punctatis, lunula humerali interrupta, fascia obliqua ante medium extrorsum latiore, at marginem haud attingente, macula marginali pone medium, lunulaque apicali cum macula discoidali sæpe connexa albis, subtus ad latera albo-pilosa, antepectore cyaneo, postpectore pedibusque cupreis, abdomine toto rufo. Long. .45.

Klug, Jahrb. für Insectenkunde, 32.

C. rubriventris Chev. Col. Mex. 2nd cent.

New Mexico, collected at Frontera, on the Rio Grande by J. D. Clark, Esq., of the Mexican Boundary Commission: in every respect except colour, and in the form of the medial band of the elytra, which does not extend to the margin, it entirely agrees with *C. Hentzii*.

52. *C. rufiventris*, atro-fusca, capite thoraceque æneo-variegatis, elytris cyaneo-punctatis, punctis utrinque sex (sæpe obsoletis) lunulaque apicali tenui albis, subtus ad latera albo-pilosa, antepectore cyaneo, postpectore pedibusque viridi-æneis, abdomine toto rufo. Long. .4—45.

Dej. Sp. Gen. 1, 102.

Southern States, Maryland to Alabama, among the Alleghany Mountains. Only differs from the two preceding by the spots of the elytra being very small, and sometimes entirely wanting: the middle band is represented by two spots, the outer one being remote from the margin, and not larger than the inner one.

53. *C. cumatilis*, viridi-cyanea, capite subtiliter granulato, utrinque striolato, thorace subcylindrico, subtiliter rugoso, ad latera parce piloso, elytris confertim haud profunde cyaneo-punctatis, foveisque versus suturam serie impressis, ad apicem rotundatis serrulatis, spina suturali prominula, puncto humerali, fascia media interrupta oblique flexa marginem haud attingente, macula marginali pone medium, lunula apicali tenui, punctoque postico discoidali albis, (sæpe oblitteratis, lunula sola apicali relicta;) subtus cyanea ad latera parce pilosa, abdomine toto rufo. Long. .43—46.

Lec. Ann. Lyc. Nat. Hist. 5, 173. (Jan. 1852.)

C. Guexiana Chev. Mag. et Revue de Zool. 1852, 424.

Shreveport, Louisiana, Mr. Guex: Creek Boundary, Dr. Woodhouse. Usually the middle band and posterior marginal and discoidal spots are represented by extremely small white dots: the apical lunule appears to be always present, but is not inflexed.

GROUP XIX.

A species, above of a shining black colour, almost destitute of metallic lustre. Eyes large and prominent; maxillary palpi piceous, but labial palpi pale at the base in both sexes. Front glabrous with a few striæ each side; labrum large, rounded, hardly toothed. Thorax cylindrical, hardly rugous or granulate. Elytra slightly narrowed in front, very faintly punctured, with a row of shallow foveæ near the suture; apex broadly rounded hardly serrate; the markings are a very narrow apical lunule and one or two dots about

the middle. Body beneath nearly glabrous, pubescent only on the coxæ, and sides of the postpectus and first and second joints of the abdomen; the latter is entirely red. The legs are long, with the tarsi considerably longer than the tibiæ; the anterior tarsi of the male are very slightly dilated.

54. *C. abdominalis*, atra, subnitida, vix æneo tincta, oculis magnis, capite utrinque parce striolato, thorace subcylindrico fere lævi, elytris convexis obsolete punctatis, foveisque cyaneis parum profundis serie impressis, ad apicem vix serrulatis, gutta submarginali ad medium, altera discoidali pone medium (sæpe oblitteratis) lunulaque tenui apicali albis; subtus cyanea, coxis, pleuris abdominisque basi ad latera pilosis, abdomine toto rufo; labro magno albo antice rotundato. Long. .35—.4.

Fabr. Syst. El. 1, 237: Herbst, Käfer, 10, 202: Dej. Sp. Gen. 1, 140: Lec. Ann. Lyc. Nat. Hist. 4, 183; tab. 14, fig. 13.

Middle and Southern States (New Jersey, North Carolina, Georgia, Alabama;) on sand blackened by fire in pine forests.

GROUP XX.

An elongate species of an opaque greenish fuscous colour above, with little metallic lustre: head glabrous, distinctly granulate, front finely striate, eyes moderate; labrum short, almost truncate, one-toothed; palpi, maxillary piceous with the last joint black bronzed, labial pale, with the last joint also black bronzed. Thorax cylindrical, finely granulate and rugous: elytra rounded at the tip, but not serrate, punctured, with a white submarginal band reaching from the humerus to the tip, and slightly lobed internally, with two teeth representing the middle band and apical lunule. Beneath finely hairy on the sides, abdomen rufo-testaceous at the margin and tip.

55. *C. marginipennis*, olivaceo-fusca, opaca, capite cyaneo-variegato, antice subtiliter striolato, thorace latitudine longiore subcylindrico, ad latera parce piloso, elytris punctatis, haud serratis spina suturali parva, vitta submarginali integra intus lobata et breviter bidentata alba ornatis; subtus cupreo-ænea, lateribus pilosis, abdomine rufo-testaceo, segmentis primis duobus medio nigris; labro brevi unidentato, palpis articulo ultimo nigro-æneo, maxillaribus piceis, labialibus pallidis. Long. .46—.53.

Dej. Sp. Gen. 5, 260: Lec. Ann. Lyc. Nat. Hist. 4, 182; tab. 14, fig. 11.

Found on the shores of the Susquehanna River, below the bridge at Harrisburg, Pennsylvania, in the month of June.

GROUP XXI.

Elongate species, sometimes of large size, having the eyes very large and prominent; the labrum is either one-toothed or three-toothed; the middle tooth of the mandibles is conspicuously smaller than the others; the palpi are pale with black tips in the male, and sometimes also in the female. The thorax is more or less rounded on the sides. The elytra are punctured, the markings are either marginal spots, or a broad slightly lobed margin, which is confluent with the edge, at least towards the apex. The apex is some-

what obliquely narrowed, and very finely serrate, the sutural spine is distinct, but in the females known to me the suture is more or less retracted, and the tips are separately rounded. Body beneath densely hairy on the sides, anus testaceous or piceous. Tarsi of the male very slightly dilated.

Of this group are known to me three principal forms, which might almost form distinct groups.

1. Front glabrous, deeply striate; elytra with a marginal spot and apical lunule. *C. severa*.
2. Front glabrous, finely striate; elytra with broad white margin. *C. circumpecta*, *prætextata*.
3. Front densely pubescent; elytra with broad white margin. *C. togata*.

56. *C. severa*, olivacea, vel viridi-nigra, subnitida, capite thoraceque fere politis, illo glabro utrinque valde striato, hoc parce rugoso, convexo lateribus rotundato, elytris ad apicem subtilissime serrulatis, antice fortiter, postice obsoletius punctatis, gutta marginali ad medium lunulaque apicali antice inflexa albis; subtus viridi-ænea, lateribus pilosis, ano vel obscuro vel testaceo; labro acute tridentato. Long. .57—.7.

Mas elytris cylindricis, sutura prominula, palpis pallidis articulo ultimo nigro-æneo.

Femina elytris planiusculis, sutura parum retracta, palpis maxillaribus basi piceis.

La Ferté, *Revue Zoologique*, 1841, 41.

Texas and New Mexico: the male, although unique, was very liberally given me by Dr. Schaum: the female was found at Tampico by Lieut. Haldeman.

57. *C. circumpecta*, olivacea sub-nitida, capite vix rugoso-granulato, utrinque subtilius striato, thorace convexo, lateribus valde rotundatis, vix parce rugoso, elytris fortius punctatis, ad apicem subtilissime serrulatis, margine late albo, intus lobato, et ad medium oblique unidentato; subtus obscure viridi-ænea, lateribus pube densa depressa vestitis, abdomine ad apicem nigro-piceo, labro tridentato. Long. .55.

La Ferté, *Revue Zoologique*, 1841, 39; 193.

Texas: the only specimen I have seen was a male, which was most kindly sent to me by Prof. Lacordaire.

58. *C. prætextata*, fusco-ænea, vel cuprea, subtiliter granulata, haud nitida, capite utrinque subtiliter striato, thorace dorso minus convexo, lateribus paulo rotundatis, albo-pilosis, elytris punctatis ad apicem subtilissime serrulatis, margine lato albo intus valde lobato, ad medium ramo brevi obliquo lato emittente albis; subtus viridi-ænea pube densa alba vestita, pectore abdomineque medio glabris, ano testaceo; labro unidentato. Long. .55.

Lec. Proc. Acad. Nat. Sc. 7, 220.

Mas sutura prominula, palpis pallidis articulo ultimo æneo.

Femina sutura valde retracta, palpis maxillaribus ad basin piceo-testaceis.

Collected by Dr. Thos. H. Webb, of the Mexican Boundary Commission, and probably found in the valley of the Gila.

59. *C. togata*, fusco-cuprea, granulata, haud nitida, capite thoraceque albo-pubescentibus, hoc lateribus rotundatis, elytris valde punctatis margine latissime albo intus trilobato, ad apicem serrulatis; subtus viridi-ænea, pube densa alba vestita, pectore abdomineque medio glabris, ano testaceo, labro unidentato. Long. .44.

La Ferté, *Revue Zoologique*, 1841, 40.

Texas, Dr. Schaum; Tampico, Lieut. Haldeman. The female is unknown to me.

GROUP XXII.

A very slender species, having the eyes very large and prominent, the head densely pubescent; the labrum short, slightly advanced in the middle and hardly perceptibly one-toothed; the palpi pale, with dark tips. The thorax is cylindrical, densely pubescent, with two subglabrous dorsal vittæ. The elytra are white, the suture (slightly dilated in three places) metallic: the apex is obliquely narrowed and slightly sinuate (in the male,) and very finely serrate. The whole under surface is densely clothed with depressed white hair: the legs are extremely long, the tarsi being one half longer than the tibiæ: the claws are very large; the anterior tarsi of the male, though densely hairy beneath, are very slightly dilated. Seems related to group XII., but abundantly distinct.

60. *C. gratiosa*, valde elongata, æneo-cuprea, capite thoraceque dense niveo-pilosis, hoc elongato, cylindrico vittis duabus dorsalibus subglabris, elytris ad apicem (maris) oblique subsinuatis, subtilissime serrulatis, niveis, vitta suturali breviter triramosa cuprea opaca; subtus virescens undique dense niveo-pubescent, antennis pedibusque longissimis, unguiculis magnis, labro brevi albo medio paulo prominulo, vix obsolete unidentato. Long. .4. Guérin, Rev. Zool. 1840, 37.

Pensacola, Florida; the only specimen in his collection was most liberally given me by Dr. Schaum.

GROUP XXIII.

A very small cylindrical species, of bright metallic colour, with red legs. The labrum is moderately large, rounded in front and feebly bisinuate in the middle, with one very small tooth; it thus appears subtridentate: the head is glabrous, densely striate each side: the eyes are large and prominent. The palpi are pale with black tips. The thorax is cylindrical, slightly hairy on the sides. The elytra are strongly punctured, with a white vitta far removed from the margin, and slightly lobed internally, extending from the humerus to the tip, where it bends around to the suture: tip obliquely narrowed (in the male) and slightly serrate. Body beneath hairy on the sides; anus testaceous. Anterior tarsi of the male very slightly dilated.

61. *C. lemniscata*, elongata, cylindrica, supra fulgente-cuprea, capite thoraceque viridi-variegatis, granulatâ et rugosis, illo utrinque fortius striato, hoc cylindrico, utrinque parce piloso, elytris fortiter dense punctatis, cylindricis ad apicem oblique angustatis, subserrulatis, vitta integra alba discoidali intus pone medium bilobata, et ad apicem ad suturam ambiente ornatis: subtus cyaneo-viridis, lateribus usque ad anum testaceum albopilosis, pedibus rufis; labro albo antice rotundato, medio obsolete subtridentato; palpis pallidis articulo ultimo æneo. Long. .31.

Lec. Proc. Acad. Nat. Sc. 7, 220.

Found by Dr. Webb of the Boundary Commission, and probably from the valley of the Gila.

GROUP XXIV.

Two very small species of dull sericeous surface, without humeral angles. Head large, glabrous, eyes very prominent, front much striate each side. Labrum moderate, rounded

in front, with a prominent medial tooth limited each side by a slight incisure, palpi pale at the base in both sexes. Thorax long, cylindrical, slightly narrowed behind, with faint transverse impressions, sides finely sparsely pubescent. Elytra narrowed in front, humeral angles none; tip rounded, not serrate, sutural spine large, retracted in the female, prominent in the male; coarsely punctured, sparsely clothed with short hair: the markings are a very narrow apical lunule, a discoidal dot and marginal line representing together the medial band, and in one species an anterior discoidal dot, which is the tip of the humeral lunule, or in the other species a very slender imperfect lunule. Wings rudimentary, unfit for flight. Body beneath hairy at the sides, anus testaceous; legs very long, anterior tarsi of the male feebly dilated.

62. *C. celeripes*, fusco-ænea, obscura, sericea, capite thoraceque granulato-rugosis, illo utrinque fortius striato, oculis maximis, hoc cylindrico, latitudine sesqui longiore, postice subangustato, lateribus rectis parce pilosis, elytris fortiter punctatis, antrorsum angustatis, humeris nullis, ad apicem late rotundatis haud serratis, spina suturali magna, guttis utrinque discoidalibus (ad trientem a basi et apice positis) posteriore interiore, linea marginali ad medium, lunulaque apicali tenui albis; subtus viridi-ænea, lateribus albo-pilosis, trochanteribus anoque testaceis; labro albo antice rotundato, medio bisinuato et unidentato, palpis sexus utriusque ad basin pallidis. Long. .3—·35.

Mas sutura integra; femina sutura retracta.

Lec. Ann. Lyc. Nat. Hist. 4, 183; tab. 14, fig. 14.

Found near the branches of the Kansas River, and between the latter and the Platte: in the month of May I found it extremely abundant, and a further suite of specimens from Fort Riley I owe to the kindness of Dr. Wm. A. Hammond, U. S. A. Specimens occur in which the discoidal dots are wanting, and only the apical lunule and marginal line remain white; sometimes even the latter disappears.

Nearly allied, but perhaps only a variety, is the species indicated by me (Proc. Acad. Nat. Sc. 6, 66) upon a single elytron brought from the Creek Boundary by Dr. Woodhouse: the punctures are not so large or so deep, the pubescence, if any existed, has been removed by the alcohol in which it was preserved: the humeral lunule is slender, curved, and entire; the marginal line sends off an internal branch at the middle running towards the discoidal spot, and the apical lunule is rectangularly inflexed at its anterior extremity. Among the specimens sent by Dr. Hammond is one, however, which corresponds exactly with the elytron above mentioned: in form it agrees exactly with *C. celeripes*, and by close inspection a few hairs may yet be perceived on the elytra, the punctures are less deep, and the tibiæ, tarsi, and tip of the femora are testaceous with green metallic lustre. On this account I am induced to separate it as a distinct species.

63. *C. cursitans*, elongata, æneo-fusca, sericea, elytris modice punctatis subglabris, antrorsum angustatis, lunula humerali antice abbreviata postice inflexa, cum linea marginali iuncta, hoc ramulo ad medium emittente, versus guttam dorsalem tendente, lunulaque apicali tenui antice inflexa albis; subtus viridi-cyanea lateribus albo-pilosis, ano obscuro, trochanteribus, femorum apice, tibiis tarsisque plus minusve testaceis. Long. .34.

One female, Fort Riley, Dr. Hammond.

SPECIES UNKNOWN TO ME.

I. '*C. decemnotata*, green above, tinged with cupreous; elytra margined with bright green or bluish; four white spots and an intermediate refracted band.'

Say, Am. Ent. pl. 18; Journ. Acad. Nat. Sc. 1, 19.

'Labrum three-toothed, white; mandibles black, base white: elytra with a white spot on the shoulder, another equidistant from the first and the band: band broad, arising from the middle of the margin, refracted at the centre of the elytron, and terminated near the suture in a line with the tip of the third spot: this spot is large, orbicular, and placed near the external tip of the terminal one, which is transverse and triangular; body beneath green, trochanters and tail purple.' Length three-fifths of an inch nearly.

Mr. Nuttall; found on the Missouri River above the confluence of the Platte. Seems allied to *C. purpurea* (race *limbalis* or *amoena*) or to *C. patruela*, but is evidently distinguished from each by the middle band being more deflexed.

II. '*C. limbata*, elytra white, suture oblique line and dot green, exterior and basal edge bluish. Length less than half an inch.'

Say, Journ. Acad. Nat. Sc. 1, 141.

'Body green, varied with blue and purple, and with cinereous hair: antennæ black at tip, labrum and exterior and superior base of the mandibles white: thorax hairy each side, indented lines violaceous; elytra white, a green sutural vitta narrowed behind, an oblique irregular line behind the middle, and a small triangular dot before the middle green; exterior edge and basal edge, bluish green or violaceous; beneath hairy; venter purplish. This species, at first sight, resembles *C. dorsalis*, but is very distinct in its marking and in the form of its thorax. Found on the Nebraska and Arkansas Rivers.'

This species does not seem allied to any that I have seen.

III. '*C. terricola*, black; a white line at the tip of the elytra. Length more than two-fifths of an inch.'

Say, Long's Expedition to St. Peter's River, 2, 268.

'Inhabits North West Territory. Body destitute of metallic lustre; labrum white, breadth more than twice the length, tip three-toothed, intermediate tooth conic acute, the lateral teeth angulated obtuse: mandibles white on the exterior base: thorax a little hairy: elytra with scattered very minute punctures, which are oblique, as if formed by a pointed instrument directed towards the anterior part of the insect, so that the surface before each puncture is a little elevated; a white line margins the extremity; venter blackish-testaceous. This species is closely allied to *C. pusilla*, but the marking of the elytra differs, and the thorax is not so much contracted at base, and is more closely affixed to the abdomen.'

C. triguttata Herbst, Käfer, 10, 182, tab. 172, fig. 5. Unless this is one of the varieties of *C. punctulata*, it is not North American.

C. obscura Fabr. is the European *C. germanica*, Erichson, (Käfer Mark Brand. 3.)

C. cœrulea || Herbst, Käfer, 10, 182, tab. 172, fig. 4. (*C. Kunzii* Gistl.) as stated by Erichson, is also a variety of *C. germanica*.

C. venosa Kollar, Ann. Wien. Mus. 1, 330, as I am informed by Dr. Schaum is *C. nitida* Dej.

APPENDIX.

10—11. *C. viatica*, cyaneo-viridis, fronte utrinque striata medio punctata et pilosa, capite thoraceque subtilius minus dense rugosis, hoc convexo lateribus rotundato, postice paulo angustato, elytris haud profunde punctatis, punctis postice fere oblitteratis, puncto humerali strigaeque brevi transversa ad medium albis, ad apicem subtiliter serrulatis spina suturali parva: subtus cyanea parce albo-pilosa, labro (feminæ) albo, antice obsolete tridentato. Long. .46.

Chevr. Col. Mex. 2nd cent. no. 180.

Sonora, Mr. Arthur Schott; one specimen. While these sheets were passing through the press, a valuable collection made by Mr. Schott during his concluding field labours on the Boundary between the United States and Mexico has been submitted to me by the kindness of the Commissioner, Major W. H. Emory: and in it, with many most beautiful species of other genera, occurred the present interesting addition to our fauna.

This species resembles in form and colour *C. sexguttata*, but differs from it by the less densely rugose thorax, the less deeply punctured elytra, and the pilose front. It seems in fact to be most nearly related to the sexguttata group, tending towards the preceding group, in *C. rugifrons*, from which it is obviously distinguished by the serrate elytra, and less robust form; from both groups it differs by the very slightly marked teeth of the labrum.

This species should therefore form a new group immediately before V. characterized as follows:

Thorax convex, sparsely rugous; front striate, pilose; elytra finely serrulate, not deeply punctured, markings very imperfect.

GROUP VI.

On renewed examination, with a very powerful lens, I find that the tips of the elytra of *C. splendida* and *limbalis* are not absolutely free from serratures. In the former especially the serration may be perceived in most specimens, but individuals of both species occur in which almost every trace of serration has vanished. In the groups I.—IV., even with the powerful lens, the edge appears perfectly smooth.



27—28. *C. californica*. By the kind attention of Mr. Ménétériés, I have received, since the printing of the preceding pages, a diagram of an elytron of his species, which I have here reproduced in a wood cut. The markings are quite distinct from any known to me; Mr. Ménétériés informs me in his letter that the labrum has only a single tooth. The species must be placed either in group VIII. or IX.

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